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THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

1. The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51-56, 57-59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5-13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Triple Part (vol 2, Triple Part 6/8) of the *Bulletin* is accordingly invited to do so, in writing, to the Secretary to the Commission as quickly as possible and in any case in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

NOTICE is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Triple Part of the *Bulletin of Zoological Nomenclature* in relation to the following names :—

(1) *Sphaeroceras* Bayle, 1878 (Class Cephalopoda, Order Ammonoidea), proposed validation of, by suppression of *Sphaeroceras* Hope, 1840 (Class Insecta, Order Coleoptera) (Z.N.(S.)405)

(2) *Procerites* Siemiradzki, 1898 (Class Cephalopoda, Order Ammonoidea) proposed designation of type species of (Z.N.(S.)403)

(3) *Macrocephalites* Zittel, 1884, proposed designation of type species of ; *Ammonites macrocephalus* Schlotheim, 1813, proposed determination of species to which name applicable (Class Cephalopoda, Order Ammonoidea) (Z.N.(S.)401)

(4) *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, proposed designation of type species of ; trivial name *cymodoce* d'Orbigny, 1850 (as published in the binominal combination *Ammonites cymodoce*), (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.)421)

(5) *Aulacostephanus* Tornquist, 1896 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)384)

(6) *Kosmoceras* Waagen, 1869, *Harpoceras* Waagen, 1869, and *Perisphinctes* Waagen, 1869 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)445)

(7) *Planites* de Haan, 1825, proposed suppression of; *Nautilus polygyratus* Reinecke, 1818 (Class Cephalopoda, Order Ammonoidea), determination of species to which name applicable (Z.N.(S.)402)

(8) *Planulites* Lamarck, 1801, *Orbulites* Lamarck, 1801, *Pelagus* Montfort, 1808, *Ellipsolithes* Montfort, 1808, *Globites* de Haan, 1825 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.) 423)

(9) *Ammonites* Bruguière, 1789 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.)425)

(10) *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*) (Class Cephalopoda, Order Ammonoidea), proposed validation of, and determination of species to which name applicable (Z.N.(S.)422)

(11) *Taxosphinctes* Buckman, 1923 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (in favour of *Arisphinctes* Buckman, 1924) (Z.N.(S.)389)

(12) *Arnioceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)509)

(13) *Liparoceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)507)

(14) *Normannites* Munier-Chalmas, 1892 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)508)

(15) *virgula* Deshayes, 1831 (as published in the binominal combination *Gryphaea virgula*) (Class Pelecypoda), proposed validation of (Z.N.(S.)407)

(16) *asper* Lamarck, 1819 (as published in the binominal combination *Pecten asper*) (Class Pelecypoda), proposed validation of (Z.N.(S.)408)

(17) *Gryphaea* Lamarck, 1801 (Class Pelecypoda), proposed suppression of, and validation of *Gryphaea* Lamarck, 1819 (Z.N.(S.)365)

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4**: 56), corresponding Notices have been sent to the journals "Nature" and "Science."

FRANCIS HEMMING

Secretary to the International Commission on Zoological Nomenclature

Secretariat of the
International Commission on
Zoological Nomenclature,
28 Park Village East, Regent's Park,
London, N.W.1, England.

24th April 1951.

INTRODUCTORY NOTE ON APPLICATIONS SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE IN REGARD TO THE NAMES OF CERTAIN JURASSIC AMMONITES

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

(Note dated 30th March 1951)

The following applications to the International Commission on Zoological Nomenclature arise out of preparations for the section on Jurassic ammonites for the international *Treatise on Invertebrate Paleontology*. Some of the nomenclatorial problems dealt with are of long standing and have often been discussed in print, but no one hitherto has thought it worth while to bring them before the Commission. Only by so doing can such time-wasting obstructions be cleared away.

Mr. Francis Hemming has most kindly spent much time and trouble in putting the papers into the necessary shape for the Commission and in anticipating and avoiding a number of likely pitfalls.

It is hoped that under the revised procedure of the International Commission decisions on these applications will be given by the end of the present year.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME *SPHAEROCERAS* BAYLE, 1878 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)405)

1. The generic name *Sphaeroceras* Bayle, 1878 (*Explic. Carte géol. France* 4 (Atlas) : pls. 52, 53) has as its type species *Ammonites brongniarti* Sowerby (J), 1817 (*Min. Conch.* **2** : 190), that species having been so selected by Douvillé in 1879 (*Bull. Soc. géol. France* (3) **7** *C.R.* : 91).

2. The name *Sphaeroceras* is widely disseminated in the literature of the Jurassic, as will be seen from the list of references given by Roman (1938, *Ammonites jurass. crét.* : 197).

3. Further, the genus *Sphæroceras* Bayle is the type species of the family SPHAEROCERATIDÆ Buckman (1920, *Type Ammonites* **3** : 22).

4. I found however on consulting Neave's *Nomenclator zoologicus* (**4** : 239) that the name *Sphaeroceras* Bayle, 1878, is an invalid junior homonym of the name *Sphaeroceras* Hope, 1840 (*Coleopterist's Manual* **3** : 143), the name of a genus in the Order Coleoptera (Class Insecta).

5. If the generic name *Sphaeroceras* Hope was a name currently used by coleopterists for a genus of beetles, I should not have considered that it would have been right to ask the International Commission on Zoological Nomenclature to use their plenary powers to suppress that name, in order to validate the generic name *Sphaeroceras* Bayle in ammonites. When however I consulted Mr. C. E. Tottenham of the Zoological Museum here, I learnt that the generic name *Sphaeroceras* Hope, 1840, was, as from the moment of its original publication, a junior synonym of the generic name *Globicornis* Latreille, 1829, each of these genera having the same taxonomic species as its type species. The Report kindly furnished by Mr. Tottenham is annexed to the present application as an Appendix. In the circumstances disclosed in this Report it was evident that not the slightest inconvenience of any kind would be experienced by coleopterists if the International Commission were to suppress the name *Sphaeroceras* Hope, 1840, while that action would be of great value to students of ammonites by validating the name *Sphaeroceras* Bayle, 1878, which (as I have explained) is the name for a well-known genus of the Jurassic and forms the basis of a family name.

6. I accordingly ask the International Commission on Zoological Nomenclature (1) to use their plenary powers to suppress the generic name *Sphaeroceras*

Hope, 1840, and to validate the name *Sphaeroceras* Bayle, 1878, (2) to place the name *Sphaeroceras* Bayle, 1878 (gender of generic name : neuter) (type species, by selection by Douvillé, 1879 : *Ammonites brongniarti* Sowerby, 1817) on the *Official List of Generic Names in Zoology*, (3) to place the trivial name *brongniarti* Sowerby, 1817 (as published in the binominal combination *Ammonites brongniarti*) on the *Official List of Specific Trivial Names in Zoology*, and (4) to place the name *Sphaeroceras* Hope, 1840, suppressed under (1) above, on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

APPENDIX

On the question whether the suppression of the name " Sphaeroceras " Hope, 1840 (Class Insecta, Order Coleoptera), under the plenary powers would cause any inconvenience to coleopterists

(Memorandum, dated 5th November 1949)

By C. E. TOTTENHAM
(*Zoological Museum, Cambridge University, Cambridge*)

From the point of view of the coleopterist there can be no objection to a request being made to the International Commission on Zoological Nomenclature for the suppression, under the plenary powers, of the generic name *Sphaeroceras* Hope, 1840.

The position is this :—Hope, 1840 (*Coleopterist's Manual* **3** : 143) first employed the name *Sphaeroceras* for a genus of beetles belonging to the family DERMESTIDAE. In doing so, he gave no generic characters but merely cited the name in a list of genera and typical species. He gave the name as a synonym of *Globicornis* Latreille, thus :—

Genus	*Typical species*
7. *Globicornis* Latr. / *Sphaeroceras* Hope	*D. rufitarsis* Pz.

Globicornis Latreille, 1829 (*Règne anim.* (ed. 2) **4** : 511) is a valid name and is currently in use. The genus so named is monobasic, the only species cited by name by Latreille being *Dermestes rufitarsis* Panzer, 1796, which is therefore the type species of the genus *Globicornis* Latreille, 1829 (*in* Cuvier, *Règne anim.* (ed. 2) **4** : 511).

Since *Globicornis* Latreille, 1829, and *Sphaeroceras* Hope, 1840, have the same type species, namely *Dermestes rufitarsis* Panzer, 1796 (*Faun. Ins.*

germ. **3** (Heft 35) : No. 6) which is a synonym of *Dermestes nigripes* Fabricius, 1792 (*Ent. syst.* **1**(1) : 233), Hope's generic name *Sphaeroceras* was strangled at birth and can never be required.

I have been able to find no mention of *Sphaeroceras* Hope, 1840, in the literature and it is not even given as a synonym of *Globicornis* Latreille by Junk (1911, *Coleopt. Catalogus* **25**, Pars 33).

Since it is an unused and useless name in the Order Coleoptera, there is very good reason why this name, as published by Bayle, should be retained in its well-known sense as the name of a genus of ammonites.

If the Commission decide to use their plenary powers to suppress the name *Sphaeroceras* Hope, 1840, it would be convenient if at the same time they would add the name *Globicornis* Latreille, 1829 (gender of generic name : feminine) (type species, by monotypy : *Dermestes rufitarsis* Panzer, 1796 (= *Dermestes nigripes* Fabricius, 1792)) on the *Official List of Generic Names in Zoology*, and the trivial name *nigripes* Fabricius, 1792 (as published in the binominal combination *Dermestes nigripes*) on the *Official List of Specific Trivial Names in Zoology*.

PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF THE GENUS "PROCERITES" SIEMIRADZKI, 1898 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)403)

1. The generic name *Procerites* was published by Siemiradzki (1898, *Palaeontograph.* **54**: 78, 303). Numerous species were included in the genus, but no type species was designated or indicated.

2. One of the species originally included was cited as *Ammonites procerus* Seebach, 1865. This species as interpreted by Siemiradzki (i.e. Siemiradzki, 1898, *nec* Seebach, 1864) was selected as the type species of *Procerites* by Buckman in 1914 (**2**: ix) and 1920 (**3**: 30).

3. De Grossouvre (1892; 1907; 1919: 385, 387) showed that *Procerites procerus* Seebach, as interpreted by Siemiradzki, was based on *Ammonites procerus* Seebach, as interpreted by Schloenbach (1865: pl. xxx, fig. 1), which (1907: 8) he renamed *Procerites schloenbachi* de Grossouvre, pointing out that it was generically different from *A. procerus* Seebach.

4. According to the decision taken by the Thirteenth International Congress of Zoology in 1948, it is necessary to assume that the original author of a genus correctly identified the nominal species referred by him thereto but where there are grounds for considering that the original author of a genus misidentified the species selected as the type species of the genus by a later author the International Commission on Zoological Nomenclature, if satisfied that the species in question was so misidentified, is, under its plenary powers, to designate as the type species of the genus concerned, either (*a*) the species intended by the original author when citing the name of the erroneously determined species or (*b*), if the identity of that species is doubtful, a species in harmony with current nomenclatorial practice (1950, *Bull. zool. Nomencl.* **4**: 158–159). Further, an author selecting a type species of a previously established genus is to be assumed to have correctly identified the species so selected (1950, *ibid.* **4**: 157–158). It follows therefore (1) that, as matters now stand, Siemiradzki is to be assumed to have correctly identified *Ammonites procerus* Seebach, 1865, when he cited that species as one of the species then included by him in the genus *Procerites*, and (2) that Buckman (1914) is to be assumed to have correctly identified that species when he selected it as the type species of the above genus. In the present case it is perfectly clear that such assumptions are not justified, for (*a*) it is certain that Siemeradzki did misidentify the species to which he

applied the name *Ammonites procerus* Seebach, and (*b*) Buckman, in selecting the type species for *Procerites*, expressly stated that the species so selected was not the true *Ammonites procerus* of Seebach but the species misidentified therewith by Siemeradzki. It is for this reason that the Commission is now asked to rectify the position under its plenary powers.

5. At my request Professor Hermann Schmidt has searched in Göttingen Museum for the type specimen of *A. procerus* Seebach and has found it and sent it to me on loan. It is a nucleus, difficult to interpret with certainty. In my opinion de Grossouvre (1919) was correct in referring it to the genus *Siemiradzkia* Hyatt, 1900. Therefore if *A. procerus* Seebach were to be recognised as type species of *Procerites*, the usage of half a century would be overturned and that generic name would have to replace *Siemiradzkia* Hyatt, 1900, a well-known and widely-distributed genus, which is now regarded as belonging to a different sub-family (PSEUDOPERISPHINCTINÆ, whereas *Procerites* as hitherto understood belongs to ZIGZAGICERATINÆ).

6. When the present application had been in the hands of the International Commission for over a year, the subgenus *Euprocerites* Wetzel (1950 : 76) was proposed with type species by original designation *Procerites schloenbachi* de Grossouvre, " because a subgenus *Procerites* (*sensu stricto*) as fixed by Buckman is not admissible according to the Rules of Nomenclature ". Incidentally Wetzel gives no indication of how *Procerites* (*sensu stricto*) should be understood, for he mentions no type species, and he assigns *A. procerus* Seebach to the subgenus *Phanerosphinctes* Buckman, 1921. This genus is based on a nucleus which is too small to be interpreted with certainty, but which is not congeneric with either *A. procerus* Seebach or *Procerites schloenbachi* de Grossouvre, and comes from older beds ; *Phanerosphinctes* is probably a synonym of *Vermisphinctes* Buckman, 1920.

7. Wetzel's new subgenus *Euprocerites* cannot, however, stand under the *Règles*. He assigns to *Euprocerites* Wetzel, 1950, the species *Parkinsonites fullonicus* Buckman, 1922, which is type species by original designation of *Parkinsonites* Buckman, 1922. *Parkinsonites fullonicus* is certainly congeneric with *Procerites scholoenbachi* de Grossouvre and is a closely allied species. If the name *Procerites* were to be rejected for the subgenus containing the species *P. fullonicus* Buckman, *Parkinsonites* would become the valid name and *Euprocerites* on Wetzel's own showing would fall as a synonym.

8. In order to provide a legal basis for the universal usage of the last half century and to avoid the revolutionary changes and consequent confusion in the nomenclature of the Bathonian PERISPHINCTIDÆ which the strict application of the *Règles* would involve, the International Commission on Zoological Nomenclature is asked to use its plenary powers to secure that the type species of the genus *Procerites* Siemiradzki, 1898, shall be the species hitherto accepted as such. The specific action requested is that the Commission should :—

(1) use its plenary powers (a) to set aside all selections of the type species of the genus *Procerites* Siemiradzki, 1898, hitherto made, and (*b*) to

designate *Procerites schloenbachi* de Grossouvre, 1907, as the type species of this genus ;

(2) place the undermentioned generic names on the *Official List of Generic Names in Zoology* :—

Procerites Siemiradzki, 1898 (gender of generic name : masculine) (type species, designated under the plenary powers : *Procerites schloenbachi* de Grossouvre, 1907, *VI^e Congrès Assoc. Franc-Comtoise, Vesoul* : 8) ;

Siemiradzkia Hyatt, 1900 (*in* Eastman—Zittel, *Text-Book Palæont.* 1 : 582) (gender of generic name : feminine) (type species by original designation : *Ammonites aurigerus* Oppel, 1856, *Württemb. naturw. Jahreshefte* **13** : 167) ;

(3) place the name *Euprocerites* Wetzel, 1950 (an objective synonym of *Procerites* Siemiradzki, 1898, as proposed to be defined under (1)(*b*) above) on the *Official Index of Rejected and Invalid Generic Names in Zoology* ;

(4) place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :

schloenbachi de Grossouvre, 1907 (as published in the binominal combination *Procerites schloenbachi*) ;

aurigera Oppel, 1856 (as published in the binominal combination *Ammonites aurigera*).

References :

Buckman, S. S., 1909–30. " Yorkshire Type Ammonites ".

Grossouvre, A. de., 1892. " Observations sur l'*Ammonites procerus* auct." *Bull. Soc. Géol. France* (3) 20 : xli.

Grossouvre, A. de., 1907. " Sur la variabilité de l'espèce chez les ammonites." *VI^e Congrès de l'Assoc. Franc-Comtoise*, Vesoul, 1 Aug. 1906.

Grossouvre, A. de., 1919. " Bajocien-Bathonien dans la Nièvre." *Bull. Soc. Géol. France* (4) 18 : 337.

Schloenbach, U., 1865. " Beiträge zur Paläontologie der Jura-und Kreide-Formation . . . " *Palaeontographica* **13** : 1.

Seebach, K. von., 1864. " Der Hannoversche Jura ", Hannover.

Siemiradzki, J. von., 1898. " Monographische Beschreibung der Ammonitengattung Perisphinctes ", Part 1, *Palaeontographica* **54** : 69.

Wetzel, W., 1950. " Fauna und Stratigraphie der Wuerttembergica-Schichten insbesondere Norddeutschlands ", *Palaeontographica* **99A** : 63.

PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF THE GENUS " MACROCEPHALITES " ZITTEL, 1884, AND OF THE TYPE SPECIMEN OF " AMMONITES MACROCEPHALUS " SCHLOTHEIM, 1813 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)401)

A. The type species of *Macrocephalites* Zittel, 1884

1. The genus *Macrocephalites* (Sutner MS.) Zittel (1884, *Handb. Pal.* **1** (Abt. 2) (3) : 470, fig. 655) was based on *Ammonites macrocephalus* Schlotheim, *A. tumidus* (Reinecke), *A. herveyi* Sowerby, *A. keppleri* Oppel, *A. arenosus* Waagen, *A. elephantinus* Waagen (*i.e.* six syntype species).

2. Only one of these species was figured by Zittel (*loc. cit.* : Fig. 655), namely *Macrocephalites macrocephalus* (Schloth.). He gave a good figure, easily recognisable. This fact and the virtual tautonomy would suggest that he regarded *A. macrocephalus* as the type species.

3. But Blake (1905 : 38–45), the first to monograph the genus, pointed out that Zittel's figure is widely different from *Am. macrocephalus* Schlotheim (1813), of which the sole type is the figure in Baier (1757, pl. xii, fig. 8) which Blake (1905 : 43) reproduced in his monograph.

4. Blake did not select a type species for this genus, but he assigned the *M. macrocephalus* of Zittel's fig. 655 to a new species, *M. typicus* Blake, which he placed first of the five species of *Macrocephalites* that he described, *M. macrocephalus* Schloth.being placed second. Blake called his new species " *Macrocephalites typicus* nom. nov.", implying that the type specimen should be the *M. macrocephalus* of either Zittel, d'Orbigny or Nikitin which he placed in the synonymy ; but the first line of his text begins " Type (pl. iii, fig. 1) ", a Scarborough specimen in the Sedgwick Museum. This specimen is therefore presumably the holotype. It does not belong to the same species as *A. macrocephalus* Zittel and belongs to a different subgenus (*Dolikephalites* Buckman).

5. S. S. Buckman (1922, *Type Ammonites* **4** : pls. cccxxxiv, A, B) obtained from the Palaeontogical Museum of Munich, and refigured photographically, the original specimen on which Zittel's figure of 1884 was based (a specimen cited by Oppel, from the basal Callovian of Ehningen). He named it " *Macrocephalites verus* nov., Holotype ", and printed on the plate " *Macrocephalites macrocephalus* Zittel, 1884, Genotype, *Handb. Pal.* 1 : 470, fig. 655."

6. The Commission are now asked to declare under the plenary powers that the type species of *Macrocephalites* is *M. verus* Buckman by deliberate subsequent selection, in spite of misuse of the word genotype for a specimen.

B. The type specimen of *Ammonites macrocephalus* Schlotheim

7. *Ammonites macrocephalus* Schlotheim (1813 : 70) was neither figured nor described. It was based solely on a drawing in Baier (1757, pl. xii, fig. 8), which has been reproduced by Blake (1905 : 43, fig. 3).

8. Baier's figure falls very far short of what is required by modern standards, but according to Blake (1905 : 39) " it is seen at once that the species represented is that now called *A. tumidus* after Reinecke (1818)." This is supported by Schlotheim's himself in a later work (1820 : 70) putting *Nautilus tumidus* Reinecke in synonymy with *A. macrocephalus*. Both came from the Callovian of Franconia.

9. Unfortunately there are complications. Not only has Baier's figure been almost universally ignored, both before and after Blake's monograph, and *A. macrocephalus* interpreted in many different ways, but " *A. macrocephalus* " has become an important zonal index fossil. The Macrocephalus Zone is world-wide and entrenched in the stratigraphical and geological literature of a century.

10. Thanks largely to the wide influence of Zittel's text-book, his interpretation of *A. macrocephalus* (i.e.=*M. verus* Buckman) has been by far the most commonly accepted and is in the minds of stratigraphers when they speak of the Macrocephalus Zone. Spath (1928 : 169) attempted to stabilise this position by pinning the name *macrocephalus* to *M. verus* Buckman, although he regarded it as generically distinct from *M. tumidus* (Reinecke). Spath wrote " it does not seem advisable now to go back with Blake (1905 : 43) to Baier's unrecognisable illustration, the original of which is lost." In 1933 I followed Spath and in my series of photographs of the chief Jurassic zonal indices I figured an English specimen of *M. verus* Buckman in illustration of *Macrocephalites macrocephalus* (Schloth.) (Arkell, 1933 : 608, pl. xxxv, fig. 1).

11. Oppel (1856–8 : 547), founder of the Macrocephalus Zone, based his interpretation on figures by Zieten (1830) and d'Orbigny (1846), the former *M. verus* Buckman, the latter *M. typicus* Blake, and he described *A. tumidus* (Reinecke) as a separate species. One of Oppel's own specimens (cited 1856–8 : 547) was that which Zittel figured and Buckman refigured as the holotype of *M. verus*.

12. Progress in knowledge of stratigraphy has proved that *M. tumidus* (Reinecke) does not occur in what has always been called the Macrocephalus Zone in this country, but in the next higher zone, the Koenigi Zone. Hence, if *M. macrocephalus* Schlotheim be interpreted by Baier's figure and *M. tumidus* (Reinecke), *M. macrocephalus* will become a species which does not occur in the Macrocephalus Zone. This will inevitably cause much confusion in geology.

13. The Commission is now asked to use its plenary powers to designate the specimen which is to be accepted as the type specimen of *Macrocephalites macrocephalus* (Schlotheim). I recommend that, in order to avoid the confusion referred to in the preceding paragraph, the specimen to be so designated should be the specimen which is the holotype of *Macrocephalites verus* Buckman, 1922 (=the specimen figured by Zittel in 1884 as *Macrocephalites macrocephalus* (Schlotheim)). By this procedure, *M. macrocephalus* would remain index fossil of the Macrocephalus Zone.

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DR. W. J. ARKELL'S APPLICATION TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE FOR RULINGS (a) ON THE QUESTION OF THE TYPE SPECIES OF " MACROCEPHALITES " ZITTEL, 1884, AND (b) ON THE QUESTION OF THE TYPE SPECIMEN OF " AMMONITES MACROCEPHALUS " SCHOLTHEIM, 1813 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)401)

1. Dr. W. J. Arkell has submitted to the International Commission on Zoological Nomenclature an application in which he asks for a ruling both as to the species to be accepted as the type species of the genus *Macrocephalites* Zittel, 1884 (*Handb. Pal.* **1** (*Abt.* 2) (3) : 470 and as to the specimen to be accepted as the type specimen of the nominal species *Ammonites macrocephalus* Schlotheim, 1813 (*Tasch. Min.* : 70). The two subjects are nomenclatorially quite distinct from one another but Dr. Arkell has united his proposals in regard thereto in a single application because his proposals in regard to the second subject have a direct bearing on the action which he asks the Commission to take as regards the first subject.

2. *Identity of the taxonomic species represented by the nominal species* Ammonites macrocephalus *Schlotheim*, 1813 : Dr. Arkell points out that the nominal species *Ammonites macrocephalus* Schlotheim, 1813, is based exclusively upon a drawing reproduced as fig. 8 on plate 12 of Baier's *J. J. Baieri Monumenta Rerum Petrificatarum* published in 1757. This, Dr. Arkell explains, is a poor figure by modern standards but has been identified by Blake (1905, *Monogr. Fauna Cornbrash* : 39) as the species " now called *A. tumidus* after Reinecke (1818)." After drawing attention to the fact that the trivial name *macrocephalus* of the species here under consideration has given its name to the Macrocephalus Zone, Dr. Arkell points out the species identified by Blake (i.e. *Nautilus tumidus* Reinecke) as that represented by fig. 8 on Baier's plate 12 (i.e. the holotype of *Ammonites macrocephalus* Schlotheim) does not occur in the Macrocephalus Zone in this country, being confined to the next higher zone, the Koenigi Zone. Dr. Arkell goes on to observe that Baier's figure—and therefore also Blake's interpretation of it—have been widely ignored by stratigraphers and that the Macrocephalus Zone, which is " world-wide and entrenched in the stratigraphical and geological literature of a century ", and the species which " is by far the most commonly accepted and is in the minds of stratigraphers when they speak of the Macrocephalus Zone " is the species to which Buckman in 1922 (*Type Ammonites* **4**: pl. 334 figs. A, B) gave the name *Macrocephalites verus*. This nominal species, Dr. Arkell adds, has at its holotype the specimen cited by Oppel from the basal Callovian of Ehningen which Zittel erroneously figured in 1884 (*loc. cit.* **1** (Abt. 2) (3) : fig. 655) under the name *Macrocephalites macrocephalus* (Schlotheim).

3. Dr. Arkell suggests that, in order to ensure that the species bearing the trivial name *macrocephalus* (i.e. the species represented by the nominal species *Ammonites macrocephalus* Schlotheim) shall be the species commonly accepted as the index fossil of the Macrocephalus Zone, the Commission should direct that the specimen to be accepted as the type specimen of this species shall be the specimen which is also the holotype of *Macrocephalites verus* Buckman, 1922 (i.e. the specimen erroneously figured by Zittel in 1884 as *Macrocephalites macrocephalus* (Schlotheim). In the form in which it is actually submitted, Dr. Arkell's proposal would involve the designation by the Commission (under its plenary powers) of a particular specimen to be the neotype of *Ammonites macrocephalus* Schlotheim, 1813. At the present time, it would be difficult for the Commission to take such a course, for, as the result of a decision taken in Paris in 1948 by the Commission, with the approval of the Thirteenth International Congress of Zoology, the whole question whether neotypes should be recognised in the *Règles* as a category of type specimen is at present *sub judice*, until a final decision is taken on this question by the Fourteenth International Congress of Zoology at its meeting to be held at Copenhagen in 1953 (1950, *Bull. zool. Nomencl.* **4**: 191-193). Fortunately, it is within the power of the Commission to secure the ends which Dr. Arkell has in view, without recourse to the creation of a neotype. A case of exactly this kind is provided by the trivial name *iris* Linnaeus, 1758 (as published in the binominal combination *Papilio iris*) (Class Insecta, Order Lepidoptera) dealt with by the Commission in 1948 (1950, *Bull. zool. Nomencl.* **4**: 540–542). In that case (as in the present case) a given trivial name (the trivial name *iris* Linnaeus, 1758) had been universally used in one sense but, as had been ascertained, the type specimen belonged to an entirely distinct, though closely allied species. The problem so presented was solved by the decision of the Commission to use their plenary powers "to direct that the trivial name *iris* Linnaeus, 1758 . . . should be applied to the species figured as *Apatura iris* by South (R.), 1906, *The Butterflies of the British Isles* as figure 1 on plate 29 . . ." An exactly similar result could be secured in the present case if the Commission were to use the plenary powers to direct that the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*) should be applied to the species figured by Buckman (S.S.), 1922, *Type Ammonites* as figs. A and B on plate 334 of volume 4 of that work.

4. *The type species of the nominal genus* Macrocephalites *Zittel*, 1884. The nominal genus *Macrocephalites* Zittel, 1884, was established without a designated or indicated type species and with six nominal species as syntypes, one of these being *Ammonites macrocephalus* Schlotheim, 1813. Dr. Arkell points out that the figure (fig. 655) given by Zittel for the above species did not, in fact, represent a specimen of *Ammonites macrocephalus* Schlotheim but was (as pointed out by Blake (1905: 38–45)) a distinct species; the species in question was the species to which in 1922 Buckman applied the name *Macrocephalites verus*. This species was selected (though, as Dr. Arkell points out, in an irregular manner) as the type species of *Macrocephalites* Zittel by Buckman in 1922 (on the legend to his plate 334). This action, which was in thorough accord with what were no doubt Zittel's intentions when he chose the virtually tautonymous name *Macrocephalites* for the genus to which he referred the nominal species *Ammonites macrocephalus* Schlotheim, has been generally

followed by later workers. From this standpoint therefore the nominal genus *Macrocephalites* Zittel, 1884, is a genus based upon a misidentified type species, the species which Zittel had in mind when placing in this genus the nominal species *Ammonites macrocephalus* Schlotheim (as based on Baier's pl. 12, fig. 8) being not that species but the species later named *Macrocephalites verus* Buckman, 1922.

5. The duties of the Commission, when dealing with genera based upon misidentified type species, were defined by the Thirteenth International Congress of Zoology and incorporated in the *Règles* in 1948 (1950, *Bull. zool. Nomencl.* **4**: 158-159). What the Congress then decided was (1) that the original author of a genus is to be assumed correctly to have identified the species referred to that genus, (2) that, where there is evidence that the author of a genus misidentified one of the species included by him in his new genus and that species was either designated by him, or selected by a later author, as the type species of the genus concerned, the Commission, if satisfied that such a misidentification has occurred, is to use its plenary powers " to designate as the type species of the genus concerned, either (a) the species intended by the original author when citing the name of the erroneously determined species or (b) if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage, save that, where the Commission is of the opinion that greater confusion than uniformity would result from so doing, it is to direct that the designation or indication or, as the case may be, the selection as the type species of the genus concerned of the nominal species cited by the original author of the genus is to be accepted."

6. Having now established precisely the duties imposed on the Commission by the Congress in relation to this class of case, we find no difficulty, on the basis of the data furnished by Dr. Arkell, in determining the action which is called for. Those data show that the currently accepted concept of the genus *Macrocephalites* Zittel is based on the assumption that the type species of this genus is the species erroneously figured by Zittel (fig. 655) as *Macrocephalites macrocephalus* Schlotheim, 1813. In other words the species commonly accepted as the type species of this genus is the nominal species *Macrocephalites verus* Buckman, 1922, the holotype of which is actually the same specimen as that figured by Zittel as *Macrocephalites macrocephalus* Schlotheim. Accordingly, if no other factors were involved, the required solution would be the use by the Commission of its plenary powers to designate *Macrocephalites verus* Buckman, 1922, as the type species of the genus *Macrocephalites* Zittel.

7. It is at this point, however, that the other portion of the application submitted by Dr. Arkell becomes immediately relevant, for, although he wants the type species of the genus *Macrocephalites* Zittel to be the species to which Buckman in 1922 gave the name *Macrocephalites verus*, he asks also that the Commission should use its plenary powers to direct that the holotype of *Macrocephalites verus* Buckman, 1922, be accepted as the holotype of *Ammonites macrocephalus* Schlotheim, 1813. The adoption by the Commission of this latter proposal would both clearly define the identity of the taxonomic species represented by the nominal species *Ammonites macrocephalus* Schlotheim and

also make the trivial name *verus* Buckman, 1922 (as published in the binominal combination *Macrocephalites verus*) an objective synonym of the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*), since in that event each of these nominal species would be based upon the same type specimen. Once the identity of *Ammonites macrocephalus* Schlotheim had been determined in this way, there would be no longer any need to designate, as the type species of *Macrocephalites* Zittel, 1884, some species different from *Ammonites macrocephalus* Schlotheim, for the taxonomic species which under the plenary powers would then be the species represented by Schlotheim's *macrocephalus* would be also the species which it is desired should be the type species of *Macrocephalites* Zittel. In those circumstances there would then be no need to use the plenary powers in relation to the type species of the genus *Macrocephalites*. For quite another reason however the use of those powers is desirable in this particular case, namely, in order to remove any doubts as to whether *Ammonites macrocephalus* Schlotheim is in fact the type species, under the *Règles*, of *Macrocephalites* Zittel, having regard to the (as Dr. Arkell points out) admittedly defective nature of the type selection made by Buckman in 1922.

8. *Form of action recommended to give effect to the purposes set forth in the application submitted by Dr. Arkell :* Having now reviewed the problem submitted by Dr. Arkell in the light of the relevant decisions taken by the Congress in regard to the procedure to be followed in dealing with nominal genera based on misidentified type species and also the precedent in regard to the determination of the identity of the taxonomic species represented by a given nominal species afforded by decisions taken by the Commission in comparable cases, we may summarise as follows the action by the Commission which (as Dr. Arkell agrees *in litt.* 26th August 1950) would be necessary to give effect to the purposes which his application is designed to serve, namely that the Commission should :—

(1) use its plenary powers :—

(a) to direct that the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*) should be applied to the species figured by Buckman (S.S.) in 1922, *Type Ammonites*, Vol. 4, as figures A and B on plate 334 (the holotype of *Macrocephalites verus* Buckman, 1922) ;

(b) to set aside all type selections for the genus *Macrocephalites* Zittel, 1884, made prior to the decision now proposed to be taken and, having done so, to designate as the type species of that genus the nominal species *Ammonites macrocephalus* Schlotheim, determined as in (a) above ;

(2) place the generic name *Macrocephalites* Zittel, 1884 (gender of generic name : masculine), with the type species designated in (1)(b) above on the *Official List of Generic Names in Zoology* ;

(3) place the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*), determined as specified in (1)(a) above, on the *Official List of Specific Trivial Names in Zoology ;*

(4) place the trivial name *verus* Buckman, 1922 (as published in the binominal combination *Macrocephalites verus*) (an invalid objective synonym of the trivial name *macrocephalus* Schlotheim, 1813, as defined in (1)(a) above) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF "PICTONIA" BAYLE, 1878, AND "RASENIA" SALFELD, 1913 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)421)

1. The generic name *Pictonia* Bayle, 1878 (: pl. lxvi) was published in explanation of a plate only, with the legend "*Pictonia cymodoce* d'Orbigny." The figure so referred to showed accurately a species differing from *Ammonites cymodoce* d'Orbigny, 1850 (: pl. 202). The text of Bayle's work was never published. The species so figured by Bayle was named *Pictonia baylei* by Salfeld in 1913 (: 423).

2. Salfeld (1917 : 73) selected *Pictonia baylei* Salfeld, 1913, as the type species of the genus *Pictonia* Bayle, and this selection has been generally followed by subsequent workers. Under the decision taken by the Thirteenth International Congress of Zoology in 1948, when incorporating in the *Règles* the substance of *Opinion* 168, the type species of *Pictonia* is the nominal species *Ammonites cymodoce* d'Orbigny, 1850, whatever that species may be, unless the Commission uses its plenary powers to designate some other species as the type species (1950, *Bull. zool. Nomencl.* **4** : 158-159). The nominal species *Ammonites cymodoce* d'Orbigny was based by its author on two syntypes, of which one, the larger, he figured as figs. 1 and 2 on his plate 202, while the other (i.e. the smaller syntype) he figured as figs. 3 and 4 on the same plate. Tornquist (1896 : 8) recognised that these two syntypes were not conspecific. He thereupon selected the smaller one (i.e. d'Orbigny's figs. 3 and 4) as the lectotype of *Ammonites cymodoce* d'Orbigny, at the same time making d'Orbigny's larger syntype (figured by d'Orbigny as figs. 1 and 2 on plate 202) the holotype of a new nominal species to which he gave the name *Pictonia orbignyi*. Thus, under the *Règles*, the type species of the genus *Pictonia* Bayle is the species figured by d'Orbigny in his figs. 3 and 4 on plate 202.

3. Lemoine (1904 : no. 55) re-figured what he claimed to be d'Orbigny's syntypes of *Ammonites cymodoce*. The larger specimen is clearly the one represented in d'Orbigny's larger figures, figs. 1 and 2 (the type specimen of *Pictonia orbignyi* Tornquist), but the smaller specimen figured by Lemoine differs in many respects from d'Orbigny's smaller figures, figs. 3 and 4 (lectotype of *cymodoce*) and it seems very doubtful whether the specimen has been correctly identified (see Arkell, 1935 : 250). The species *A. cymodoce* d'Orbigny therefore rests on insecure foundations and is unsuitable as the type species of a genus.

4. In 1913 Salfeld (1913 : 249) founded the genus *Rasenia*, with type species by original designation *A. cymodoce* d'Orbigny, as represented by the larger figures only (figs. 1 and 2). But under the decision taken by the Thirteenth International Congress of Zoology in 1948, referred to in paragraph 2, the type species of *Rasenia* is the nominal species *A. cymodoce* d'Orbigny, which by Tornquist's selection of 1896 (see paragraph 2 above) was fixed on d'Orbigny's figs. 3 and 4. Moreover, the specimen represented in d'Orbigny's figs. 1 and 2 was already the holotype of *Pictonia orbignyi* Tornquist, 1896 (see para. 2 above).

5. From Salfeld's writings it seems certain that his designation of d'Orbigny's figs. 1 and 2 as representing the type species of *Rasenia* was a slip, for his use of the genus *Rasenia* shows clearly that what he had in mind was d'Orbigny's figs.3–4 (i.e., the lectotype specimen of *A. cymodoce*), not figs. 1 and 2, which he would have called *Pictonia orbignyi* Tornquist ; and he says of *Rasenia* " Another characteristic species is *Ammonites uralensis* d'Orbigny " (1845), which closely resembles d'Orbigny's (1850) figs. 3 and 4 but not figs. 1 and 2.

6. So apparent is Salfeld's intention in all his writings that the latest monographer (Schneid, 1940 : 79) has asserted that Salfeld did select d'Orbigny's figs. 3–4 as representing the type species of *Rasenia*. Unfortunately it requires more than this assertion to correct Salfeld's error.

7. As the Rules stand, therefore, *A. cymodoce* d'Orbigny (1850, figs. 3–4) is type species of both *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913. Since the type specimen is doubtful, this species is unsuitable to be type species of any genus (see paragraph 3 above), and the Commission is now asked to designate new type species for both genera.

8. The obvious type species for *Pictonia* is the one already widely accepted as such, namely, *Pictonia baylei* Salfeld. A suitable type species for *Rasenia* is less obvious. *A. uralensis* d'Orbigny (1845 : 429, pl. xxxii) would be suitable, but that the smaller, young, individual in d'Orbigny's figs. 8 and 9 has been selected as lectotype of this species by R. Douvillé (1911, n. 210) and it is so small that it leaves the nature of the species in doubt. In view of this the best choice is another species assigned by Salfeld himself to *Rasenia*, though not published until much later : namely, *Rasenia involuta* (Salfeld MS.) *in* Spath (1935 : 48, pl. 10, figs. 5a, 5b). This is close to the larger figured example of *A. uralensis* d'Orb. (1845, figs. 6–7) and has the advantage of having come from the brickpits in the Lower Kimeridge Clay of Market Rasen, Lincolnshire, after which the genus was named *Rasenia*.

9. I therefore recommend that, in order to avoid the confusion which otherwise is inevitable, the International Commission on Zoological Nomenclature should use their plenary powers to set aside all existing type designations or type selections for the under-mentioned genera and to designate as their respective type species the species specified below :—

(1) *Pictonia* Bayle, 1878 : type species to be *Pictonia baylei* Salfeld, 1913 (based on Bayle, 1878 : pl. lxvi), from the lower Kimeridgian of Normandy) (gender of generic name : feminine).

Rasenia Salfeld, 1913 : type species to be *Rasenia involuta* (Salfeld MS.) Spath (1935 : 48, pl. 10, figs. 5a, 5b), from the Lower Kimeridge Clay of Market Rasen, Lincolnshire) (gender of generic name : feminine).

10. Consequential upon the adoption of the foregoing recommendation, the Commission are asked to place on the *Official List of Generic Names in Zoology* the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, and on the *Official List of Specific Trivial Names in Zoology* the trivial names *baylei* Salfeld, 1913 (as published in the binominal combination *Pictonia baylei*) and *involuta* (Salfeld MS.) Spath, 1935 (as published in the binominal combination *Rasenia involuta*).

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ON THE PROPOSALS RELATING TO THE DETERMINATION OF THE TYPE SPECIES OF THE NOMINAL GENERA "PICTONIA" BAYLE, 1878, AND "RASENIA" SALFELD, 1913 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE BY DR. W. J. ARKELL

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)421)

1. The case of the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, submitted to the Commission by Dr. W. J. Arkell, is one of peculiar complexity, owing to the facts that, as specialists are agreed, (1) the nominal genus *Pictonia* Bayle was based upon a misidentified type species, (2) the type species of *Rasenia* Salfeld was cited by the author of that name in a misleading manner, and (3) the nominal species which (as shown below) is, under the *Règles* the type species of both genera is a species which, when its name was first published, was a composite species, the division of which, under Article 31, has proved a matter of difficulty. Passing from the nomenclatorial aspects of this case to the taxonomic aspects, as laid before the Commission, we shall find that the strict application of the *Règles* to these generic names would have the effect (i) of transferring to the genus *Pictonia* the species at present referred to the genus *Rasenia*, (ii) of making *Rasenia* an objective synomym of *Pictonia*, and (iii) of making it necessary to find some new generic name for the species at present placed in the genus *Rasenia*. It is Dr. Arkell's object to prevent the serious confusion to which the foregoing changes would give rise, by enlisting the help of the Commission through the use of its plenary powers. In order to grasp the nomenclatorial implications of this difficult case, I have found it necessary for my own purposes to prepare the present analysis of the data submitted as a preliminary to considering exactly what action by the Commission would be necessary to secure the ends sought by Dr. Arkell.

The type species, under the "Règles", of the nominal genera "Pictonia" Bayle, 1878, and "Rasenia" Salfeld, 1913

2. *Type species of* Pictonia *Bayle*, 1878: The generic name *Pictonia* was first published in 1878 by Bayle in volume 4 of the Atlas to his *Géologie de France*; it there appeared in the explanation to plate lxvi in the form of the following legend: "*Pictonia cymodoce* d'Orbigny." No explanatory text was ever published by Bayle. From the standpoint of nomenclature the nominal genus *Pictonia* Bayle, 1878, has, as its type species by monotypy, the species *Ammonites cymodoce* d'Orbigny, 1850, whatever that species may be. (It may here be noted that, until the meeting of the Thirteenth International Congress of Zoology in Paris in 1948 it had never been made clear authoritatively whether a generic name published in this way on the legend of a plate could

properly be regarded as having been published with an indication for the purposes of Article 25 or whether a name so published ought, under the *Règles*, to be regarded as a *nomen nudum*. At the foregoing Congress consideration of this question was given in connection with an application submitted, as a test case, by Dr. Harald A. Rehder (United States National Museum, Washington, D.C.) regarding the status of the generic name *Erycina* Lamarck, 1801; it was then decided that words should be inserted in the *Règles* " to make it clear that a generic name published prior to 1st January 1931, on a legend to a plate or plates but without explanatory matter is to be treated as having been published with an " indication " for the purposes of Article 25 " (see 1950, *Bull. zool. Nomencl.* **4**: 255). Accordingly, any doubts which formerly may have existed regarding the availablity of the generic name *Pictonia* as from the time when it was first published by Bayle in 1878 have now been set at rest.)

3. *Type species of* Rasenia *Salfeld*, 1913: The generic name *Rasenia* was first published by Salfeld in 1913 (*Quart. J. geol. Soc.* **69**: 423). He designated, as the type species of this genus, *Ammonites cymodoce* d'Orbigny, 1850. That species, whatever it may be, is therefore the type species of this genus. In making this type designation, Salfeld noted that he regarded figs. 1 and 2 on plate 202 of d'Orbigny's work as representing the true *Ammonites cymodoce* d'Orbigny; he presumably added this note, because he was aware that (as pointed out by Tornquist (1896)) (paragraph 6 below) d'Orbigny's nominal species *Ammonites cymodoce*, when first established, was a composite nominal species and he wished therefore to indicate that, in referring to that species, he (Salfeld) had in mind the species represented by d'Orbigny's figs. 1 and 2 and not that represented by that author's figs. 3 and 4. In this connection we have to pay special heed to the action taken by the Thirteenth International Congress of Zoology in Paris in 1948, when it incorporated into the *Règles* in a clarified and expanded form the rulings on the subject of the type species of genera established with misidentified type species previously given by the Commission in their *Opinions* 65 and 168. It will be noted that in their amended form the *Règles* provide that an author who publishes a name for a genus is to be assumed " to have identified correctly the nominal species referred by him to the genus so named and therefore that, where . . . the original author himself designates or indicates . . . one of the originally included nominal species to be the type species of the genus, the designation . . . so made, is not to be rejected on the ground that the original author of the generic name misidentified some other nominal species with that nominal species " (1950, *Bull. zool. Nomencl.* **4**: 158). It is perfectly clear therefore that, under the *Règles*, the type species of *Rasenia* Salfeld, 1913, is *Ammonites cymodoce* d'Orbigny, 1850, by original designation. The present case is however complicated by the fact that Salfeld, when citing the name *Ammonites cymodoce* d'Orbigny, added that he identified that species with figs. 1 and 2 given by d'Orbigny on his plate 202, whereas it is clear, as Dr. Arkell points out, from other observations made by Salfeld that he intended to refer not to the foregoing figures but to d'Orbigny's figs. 3 and 4 (which had been made the lectotype of *Ammonites cymodoce* d'Orbigny by Tornquist in 1896 (see table in paragraph 6, p. 184)). This note by Salfeld has led to the conclusion by some workers that the species represented by d'Orbigny's figs.

1 and 2 must (contrary to Salfeld's intention) be accepted as the type species of *Rasenia*, but, as will be seen from the decision by the Congress quoted above, this is not so, for the type species of a genus must be the species represented by the nominal species designated as the type species, in the present case, *Ammonites cymodoce* d'Orbigny, 1850, the lectotype of which (as already stated) is the species represented not by d'Orbigny's figs. 1 and 2 but that represented by his figs. 3 and 4. Thus, in fact, Salfeld's action constitutes, under the *Règles*, a valid designation, as the type species of *Rasenia*, of the species which he intended to designate (i.e. the species represented by d'Orbigny's figs. 3 and 4), notwithstanding the fact that the note which he added, by some slip of the pen, implied that he intended to designate, as the type species of this genus, the species represented by d'Orbigny's figs. 1 and 2.

4. *Nomenclatorial relationship of the nominal genera* Pictonia *Bayle*, 1878, *and* Rasenia *Salfeld*, 1913, *with one another :* In the preceding paragraphs, we have seen that the type species of *Pictonia* Bayle, 1878, is, under the *Règles*, the nominal species *Ammonites cymodoce* d'Orbigny, 1850 (paragraph 2) and that the same nominal species is the type species of *Rasenia* Salfeld, 1913. Thus, under the *Règles*, the generic name *Rasenia* Salfeld, 1913, is a synonym of *Pictonia* Bayle, 1878 (the nominal genera, so named, having the same nominal species as their respective type species). Under a strict application of the *Règles*, the generic name *Rasenia* Salfeld, 1913, is an invalid name and disappears from the literature, unless the Commission confers availability upon it by varying its type species under the plenary powers.

The identity of the nominal species " Ammonites cymodoce " d'Orbigny, 1850

5. Having ascertained that, under the *Règles*, the nominal species *Ammonites cymodoce* d'Orbigny, 1850, is the type species both of *Pictonia* Bayle, 1878, and of *Rasenia* Salfeld, 1913, we have now to consider the question, partly nomenclatorial and partly taxonomic, of the identity of the species to which under the *Règles* the specific name *Ammonites cymodoce* d'Orbigny, 1850, properly applies. The nomenclatorial procedure for determining the type specimen of a nominal species or the figure or description which exclusively represents the type specimen of a nominal species, both where such a species is regarded by specialists as having originally been a composite species and where it is not so regarded, is laid down in Article 31 of the *Règles*, as amplified and clarified by the Thirteenth International Congress of Zoology in 1948 (see, 1950, *Bull. zool. Nomencl.* **4**: 73-76). Taxonomic considerations are involved in such a case only where specialists in the group concerned are of the opinion, as in the present case, that the nominal species under consideration was originally a composite species. In discussing in the following paragraphs this aspect of the present case, I naturally rely entirely upon the views expressed by Dr. Arkell and by the authorities whom he cites, having myself no personal knowledge in this matter.

6. The nominal species *Ammonites cymodoce* d'Orbigny, 1850, was based

by its author upon four figures (figs. 1–4) given by him on plate 202 of his work. Figures 1 and 2 represent one specimen, figures 3 and 4 another. These two specimens are therefore the sole syntypes of this nominal species, the first syntype being represented by figs. 1 and 2, the second, by figs. 3 and 4. These two syntypes have since the time of Tornquist (1896 : 8) been regarded as being specifically distinct from one another. In the ensuing discussion, I refer to the species represented by the syntype represented by figs. 1 and 2 as Species " A," and to the species represented by the syntype represented by figs. 3 and 4 as Species " B." In the following table I have assembled certain particulars in regard to species " A " and species " B " given by Dr. Arkell, which throw important light both on the nature of the problem and on the character of the action required to avoid the confusion apprehended by Dr. Arkell.

Particulars relating to the two taxonomic species considered by specialists to have been included by d'Orbigny in his composite nominal species " Ammonites cymodoce " d'Orbigny, 1850

	Species " A "	*Species " B "*
Figure given by d'Orbigny.	Figs. 1 and 2 on pl. 202.	Figs. 3 and 4 on pl. 202.
Relationship of d'Orbigny's figures to the specimens claimed by Lemoine to have been identified as the syntypes on which those figures were based	" The larger specimen is clearly the one represented in d'Orbigny's larger figures, figs. 1 and 2 " (Arkell).	" The smaller specimen figured by Lemoine differs in many respects from d'Orbigny's smaller figures, figs. 3 and 4, and it seems very doubtful whether the specimen has been correctly identified." (Arkell).
Species to which the name *Ammonites cymodoce* d'Orbigny applies through the selection of a lectotype from the original syntypes	—	Tornquist (1896) selected figures 3 and 4 on pl. 202 to represent the lectotype of *Ammonites cymodoce* d'Orbigny, which thus became the name of Species " B."
Name given to the syntype not selected as the lectotype of *Ammonites cymodoce* d'Orbigny	Tornquist (1896) established a new nominal species, *Pictonia orbigni*, expressly based on d'Orbigny's figs. 1 and 2.	—
Relative size of d'Orbigny's syntypes	Larger than that represented by d'Orbigny's figs. 3 and 4.	Smaller than the syntype represented by d'Orbigny's figs. 1 and 2.
Distinguishing characters of d'Orbigny's syntypes	" A smooth ammonite with flared ribs on the inner whorls " (Arkell).	" A strongly ribbed ammonite showing ribs swung well forward but none of them flared"(Arkell).
Genera to which species corresponding with d'Orbigny's syntypes commonly referred	*Pictonia* Bayle, 1878.	*Rasenia* Salfeld, 1913.

7. The data assembled in the foregoing table show :—

(a) that *Ammonites cymodoce* d'Orbigny, 1850, the type species, under the *Règles* (paragraph 2) of *Pictonia* Bayle, 1878, is in fact a species belonging to the group referred to the genus *Rasenia* Salfeld, 1913 ;

(b) that the acceptance of the above species as the type species of *Pictonia* Bayle, 1878, by involving the transfer to that genus of the species at present referred to *Rasenia* Salfeld, 1913, and the transfer to some other genus of the species currently referred to *Pictonia* Bayle, would create confusion in the nomenclature of the genera and species concerned.

Species intended by Bayle to be referred to the genus "Pictonia" Bayle, 1878, as contrasted with the species referable thereto under the "Règles" in consequence of "Ammonites cymodoce" d'Orbigny, 1850, being the type species of that genus.

8. We have seen (paragraph 2) that the type species of *Pictonia* Bayle, 1878, under the *Règles* is *Ammonites cymodoce* d'Orbigny, 1850, and (paragraph 7) that this species is not a species of the genus *Pictonia* Bayle, as currently understood. This is because a further error of determination was committed by Bayle himself who, when citing the above species in explanation of his plate lxvi, applied to it the figure of a specimen of a different species. This error was detected by Salfeld in 1913 who gave to the species figured by Bayle the name *Pictonia baylei*. In 1917 Salfeld followed this up by selecting *Pictonia baylei* Salfeld, 1913, as the type species of the genus *Pictonia* Bayle. In this action Salfeld has been generally followed by later writers and it is this practice that has given rise to the current conception of the genus *Pictonia*. Salfeld's action in 1917 was invalid, because, as already explained (paragraph 2), the type species of *Pictonia* Bayle had been *Ammonites cymodoce* d'Orbigny, by monotypy, from the moment that the name *Pictonia* was first published in 1878.

Action suggested to prevent the confusion which would follow the strict application of the "Règles" in the present case.

9. The Thirteenth International Congress of Zoology, when revising the *Règles* in Paris in 1948, provided (as indicated in paragraph 3 above) a remedy in cases where the acceptance, as the type species, of the nominal species designated, indicated or selected as such under Article 30 of the *Règles* would clearly lead to confusion, owing to the nominal genus in question having been based upon a misidentified type species. The remedy so provided (see 1950, *Bull. zool. Nomencl.* **4** : 158–159) was that the Commission, if satisfied that such a misidentification had occurred, is "under its plenary powers, to designate as the type species of the genus concerned, either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b) if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage." It is this provision which Dr. Arkell seeks to invoke in the present case.

10. The purpose of the action recommended being to secure that the nominal genera *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, shall have, as their respective species, species which are in harmony with the current usage of the generic names, the first action required is that the Commission should use its plenary powers to set aside all type designations, indications or

selections made for either of the foregoing nominal genera prior to the date of the action proposed. When we turn to the question of the species which should be designated under the plenary powers to be the type species of these genera, it is immediately evident that in the case of the genus *Pictonia* Bayle, 1878, the species which should be designated as the type species is *Pictonia baylei*, 1878, that being (a) the species figured by Bayle (under the erroneous name *Pictonia cymodoce* d'Orbigny) at the time when he first published the generic name *Pictonia*, and (b) the species which is commonly (though incorrectly) regarded as the type species of that genus and which in consequence has given rise to the commonly accepted concept of the scientific content of this genus. When we turn to the question of the type species of the genus *Rasenia* Salfeld, 1913, the position is found to be somewhat different. In this case, the type species (*Ammonites cymodoce* d'Orbigny, 1850) is, as specialists agree, a species belonging to the genus *Rasenia* as currently understood. Dr. Arkell has expressed the opinion, however, that the grave discrepancies between d'Orbigny's figs. 3 and 4 (representing the lectotype of *Ammonites cymodoce* d'Orbigny) and the specimen claimed by Lemoine (1904) to be the actual specimen from which those figures were prepared throw the specific identity, he thinks, even the generic affinities, of that nominal species into doubt and make it unsuitable to be the type species of this important genus. I agree with the view expressed by Dr. Arkell in this matter and concur in his suggestion that some species of undoubted identity, and one clearly belonging to the genus *Rasenia* Salfeld, as currently understood, should be designated as the type species of that genus. The species suggested for this purpose by Dr. Arkell is *Rasenia involuta* (Salfeld M.S.) Spath, 1935 (*Meddelelser Grønland* **99** (No. 2) : 48 pl. 10, figs. 5a, 5b). I should add that, if the nominal species *Ammonites cymodoce* d'Orbigny is to be displaced for the foregoing reasons, from its position as the type species of *Rasenia* Salfeld, the logical course would be to recognise that the specific name *Ammonites cymodoce* d'Orbigny, 1850, is an unwanted *nomen dubium* and therefore to suppress that name, thereby eliminating any further waste of time in discussion as to the possible identity of the taxonomic species which it was intended to represent. If these general conclusions were to be accepted by the Commission, a number of routine decisions, in regard to the addition of the various names concerned to the appropriate *Official List* or *Official Index*, would follow in the wake of the main decision. The detailed decisions which (as Dr. Arkell agrees *in litt.*, 10. ix. 1950) would be called for on the basis discussed above, are as follows :—

(1) that the plenary powers of the Commission should be used :

(a) to set aside all type designations, indications or selections made for the undermentioned genera prior to the date of the proposed decision :—

(i) *Pictonia* Bayle, 1878 ;

(ii) *Rasenia* Salfeld, 1913 ;

(b) to designate *Pictonia baylei* Salfeld, 1913 (based upon Bayle's (1878 plate lxvi) to be the type species of *Pictonia* Bayle, 1878 ;

(c) to designate *Rasenia involuta* (Salfeld M.S.) Spath, 1935 (as represented by figs. 5a and 5b on Spath's plate 10) to be the type species of *Rasenia* Salfeld, 1913 ;

(d) to suppress the trivial name *cymodoce* d'Orbigny, 1850 (as published in the binominal combination *Ammonites cymodoce*) ;

(2) that the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1813 (gender of both generic names, feminine), with the type species respectively designated therefor in (1) above, should be placed on the *Official List of Generic Names in Zoology* ;

(3) that the undermentioned trivial names should be placed on the *Official List of Specific Trivial Names in Zoology* :—

(a) the name *baylei* Salfeld, 1913 (as published in the binominal combination *Pictonia baylei*), as defined in (1) (b) above ;

(b) the name *involuta* (Salfeld M.S.) Spath, 1935 (as published in the binominal combination *Rasenia involuta*), as defined in (1) (c) above ;

(4) that the trivial name *cymodoce* d'Orbigny, 1850 (as published in the binominal combination *Ammonites cymodoce*) should be placed on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF THE GENUS "AULACOSTEPHANUS" TORNQUIST, 1896 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)384)

The case of the generic name *Aulacostephanus* was fully reviewed by me in 1935 (*Geol. Mag.* **72** : 252-253, 256), when I recommended that the Commission should stabilize usage by ruling that the type be *Am. mutabilis* d'Orbigny *nec* Sowerby, which the authors presumably had in mind and intended (= *Am. pseudomutabilis* de Loriol). No published dissent from this recommendation has come to my notice, nor has any been received privately; hence I now ask the International Commission on Zoological Nomenclature to use its plenary powers to stabilise current usage by giving effect to my recommendation of 1935.

The relevant facts are as follows :—

(1) The name *Aulacostephanus* first appears on page 5 of Tornquist's memoir (1896), where he remarked that *Olcostephanus berryeri*, *eumelus* and *pseudoeumelus* are of interest on account of their relationship to "*Aulacostephanus* (*Am. mutabilis*)." On page 7 he explained that Pompeckj in a letter had informed him of von Sutner's and Pompeckj's intention to propose the name *Aulacostephanus* for "*Reineckeia*" *mutabilis* Sowerby and its allies. No other species is mentioned by name in either place. Hence on the strict interpretation of the *Règles*, the nominal species *Ammonites mutabilis* J. de. C. Sowerby, 1823 (Min. Conch. **4** : 145 pl. cccev) is the type species of this genus.

(2) *Ammonites mutabilis* J. de C. Sowerby, from the Glacial Drift, was obscurely figured by Sowerby and inadequately described. The holotype has since been refigured by me (1933 : pl. xxxix, figs. 5, 5a) and it does not belong to the group which, like *Reineckeia*, has a ventral smooth band. Had Sutner and Pompeckj consulted Sowerby's holotype, they would never have referred to this species as "*Reineckeia mutabilis*." It is, in fact, a species of the genus which Salfeld (1914) called *Rasenia* ; Salfeld (1914, : 129) in his important stratigraphical work assigned it to *Rasenia*, and it has ever since been known as a zonal index fossil under the name *Rasenia mutabilis*.

(3) Sutner and Pompeckj and Tornquist, therefore, were interpreting *Am. mutabilis* by some other figure, and it is highly probable that this figure was that of d'Orbigny (1850 : 553, pl. ccxiv), which shows admirably one of the smooth-ventered forms with ribs interrupted over the siphuncle. The species so figured was later renamed *Ammonites pseudomutabilis* by de Loriol (1874 : 28, pl. v, figs. 1–3). The specimen figured by d'Orbigny was selected as the lectotype of this species by Durand (1932 : 306).

(4) Salfeld (1914, *loc. cit.*) when establishing his zonal classification of the Upper Jurassic placed *Am. pseudomutabilis* de Loriol, together with the allied *Am. yo* d'Orbigny and *Am. eudoxus* d'Orbigny, in the genus *Aulacostephanus*, without comment. These species and others have been called *Aulacostephanus* by authors ever since, and Salfeld's separate zones of *Rasenia mutabilis* and *Aulacostephanus pseudomutabilis* are in current use by all stratigraphers.

(5) To reverse current usage by transferring the name *Aulacostephanus* to what has always been known as *Rasenia*, and to rename *Aulacostephanus* auct. would cause serious confusion, in stratigraphy as well as in palaeontology.

(6) Two attempts have been made to fix the name *Aulacostephanus* on the *Reineckeia*-like genus for which it was certainly intended. Spath (1925 : 152) wrote, without stating that he was selecting a type species, "*Aulacostephanus* (type : *A. eudoxus* d'Orbigny)." Schindewolf (1925 : 339) selected *A. phorcus* Fontannes, but added in a footnote that he had been forestalled by Spath who had selected *A. eudoxus*.

(7) Since neither *A. eudoxus* nor *A. phorcus* was mentioned by the original author (Tornquist) in connexion with the generic name *Aulacostephanus*, neither is eligible for selection as the type species of the genus so named.

(8) In order to stabilise the nomenclature of this group and to prevent the serious confusion, both in stratigraphy and palaeontology, which would result from the strict application of the *Règles* in this case, the International Commission is asked :—

(1) to use its plenary powers :—

(a) to set aside the indication by monotypy of *Ammonites mutabilis* Sowerby (C. de J.), 1823, as the type species of *Aulacostephanus* Tornquist, 1896 ;

(b) to designate *Ammonites pseudomutabilis* de Loriol, 1874, to be the type species of the foregoing genus ;

(2) to place the generic name *Aulacostephanus* Tornquist, 1896 (gender of generic name : masculine) (type species, by designation under the plenary powers under (1) (b) above : *Ammonites pseudomutabilis* de Loriol, 1874) on the *Official List of Generic Names in Zoology ;*

(3) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology :—*

(a) *mutabilis* Sowerby (C. de J.), 1823 (as published in the binominal combination *Ammonites mutabilis*) ;

(b) *pseudomutabilis* de Loriol, 1874 (as published in the binominal combination *Ammonites pseudomutabilis*).

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PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF WAAGEN'S (1869) AMMONITE GENERA "KOSMOCERAS," "HARPOCERAS" AND "PERISPHINCTES" (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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1. In a long footnote Waagen (1869 : 247–8) founded six new genera of Jurassic ammonites, the names given to which have since become "household words," but the three here dealt with are without satisfactory type species.

2. *Kosmoceras* Waagen, 1869 (: 248). This name rests on the following original diagnosis alone : "The third group comprises the Ornati, which can appropriately be named *Kosmoceras* and distinguished by its short body-chamber, which occupies hardly more than half a whorl." No species was cited by Waagen. Haug (1887) made a family KOSMOCERATIDAE, and Buckman (1926) a superfamily KOSMOCERATACEAE. Buckman (1921 : 54) considered all the Ornati named before 1869 as included species and therefore available for selection as the type species. He accordingly selected *Am. ornatus rotundus* Quenstedt, 1846, as the type species. This species is subjectively identified with *Am. spinosus* J. de C. Sowerby, 1826 (*Min. Conch.* **6** : 78) (refigured Arkell, 1939 : 184, 187, pl. xi, fig. 1), from the Oxford Clay, Lamberti Zone, Weymouth.

3. *Perisphinctes* Waagen, 1869 (: 248). This rests on a somewhat longer diagnosis to which Waagen added : "To this subgenus (of *Stephanoceras*) belong all the true Planulati of the Middle and Upper Jurassic, and besides them *Per. anceps*, *astierianus*, etc." It so happens, therefore, that the only two nominal species cited by Waagen are species which he mentioned for the reason that they do *not* fall within the well-known group for which primarily he introduced the name *Perisphinctes*. He was stretching the concept to include them. Steinmann (1890) made a family PERISPHINCTIDAE, and Wedekind (1917) a superfamily PERISPHINCTACEAE, while as yet no type species had been selected. Buckman (1920 : 26-27) considered all Planulates of the Middle and Upper Jurassic named before 1869 should be regarded as originally included species and therefore available for selection as the type species. He accordingly so selected *Am. biplex* J. Sowerby, 1821. The holotype of this species (refigured Arkell, 1947 : 362) is a distorted fragment of inner whorls, not identifiable specifically, from the Drift, ex Ampthill Clay, Upper Oxfordian. It might belong to one of at least three species, of which the best-known and earliest named and most probable is *P. variocostatus* Buckland, 1836, and this has been taken as the standard for defining the genus and subgenus *Perisphinctes* (see Arkell, 1947 : 363, pl. lxxxvi, figs. 1–4).

4. *Harpoceras* Waagen, 1869 (: 245, 250). This genus is in the same position as *Perisphinctes*. Waagen (1869 : 245) proposed it for the Falciferi of the Lias but named no species of the true Falciferi, only (: 250) ten species for which he was stretching the definition to bring them in. None of these ten species has had a well-known generic name for less than 50 years. To consider them the sole species eligible for selection as the type species would be disastrous. Neumayr (1875) made a subfamily HARPOCERATINAE, Zittel (1884) a family HARPOCERATIDAE, and Wedekind (1917) a superfamily HARPOCERACEA. The first selection of a type species seems to have been by Fischer (1882 : 392) who selected *A. serpentinus* Schlotheim, 1813, an unfigured and problematic species. Buckman (1919 : pls. cxxxviii, A, B, and 1926 : pl. cxxxviii, C) considered that the species should be interpreted by Reinecke's figure of 1818, which he reproduced ; at the same time he named the genus *Hildoceratoides* ; this species does not belong to the subfamily HARPOCERATINAE Neumayr (1875) but to the family and subfamily HILDOCERATIDAE Hyatt, 1867, so that if it were accepted as the type species, HARPOCERATINAE would disappear as synonym of HILDOCERATINAE. Buckman (1928 : pl. dcclxiv), apparently unaware of Fischer's type selection, selected *Am. falcifer* J. Sowerby, 1820 (Min. Conch. **3** : 99), as the type species of Waagen's *Harpoceras* and refigured Sowerby's holotype, from the Upper Lias of Barrington, Somerset, a readily identifiable specimen of a species on which von Buch's " family Falciferi " was founded and of which it was always regarded as the type species by virtual tautonomy. The genus *Harpoceras* having been founded expressly for the Falciferi ought to have *A. falcifer* as its type species, notwithstanding Fischer's designation. Buckman did in fact regard this species in this light as from 1887, although he did not so select it in the strict meaning of the term.

5. In order to avoid the serious disturbance in the literature of Jurassic ammonites and the confusion both in nomenclature and systematics which would follow the strict application of the *Règles* in the case of the generic names discussed above, I ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers (a) to set aside all selections of type species for the under-mentioned genera made prior to the proposed decision and (b) to designate as their respective type species the species severally specified below :—

Name of Genus. (1)	*Gender of generic name.* (2)	*Name of Species proposed to be designated as the type Species of the genus specified in Col.* 1. (3)
Kosmoceras Waagen, 1869 ...	N	*Ammonites spinosus* Sowerby (J. de C.), 1826.
Perisphinctes Waagen, 1869...	M	*Ammonites variocostatus* Buckland, 1836.
Harpoceras Waagen, 1869 ...	N	*Ammonites falcifer* Sowerby (J.), 1820.

*See also p. 199.

(2) to place on the *Official List of Generic Names in Zoology* the three generic names specified in Col. (1) above with the type species specified in Col. (3) in (1) above, proposed to be so designated under the plenary powers :—

(3) to place on the *Official List of Specific Trivial Names in Zoology* the under-mentioned trivial names :—

(a) *falcifer* Sowerby, 1820 (as published in the binominal combination *Ammonites falcifer*) ;

(b) *spinosus* Sowerby, 1826 (as published in the binominal combination *Ammonites spinosus*) ;

(c) *variocostatus* Buckland, 1836 (as published in the binominal combination *Ammonites variocostatus*).

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Arkell, W. J., 1947. Monograph on the Ammonites of the English Corallian Beds, part 13 : 362, 363. (*Palaeont. Soc. Lond.*)

Buckman, S. S., 1887. "On *Ammonites serpentinus*, *Am. falcifer*, *Am. elegans*, etc." *Geol. Mag.* (3) **4** : 396.

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Waagen, W., 1869. Die Formenreihe des Ammonites subradiatus. *Geognost. Paläont. Beiträge*, **2** (Heft 2) : 181.

PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS THE NAME " PLANITES " DE HAAN, 1825, AND TO DETERMINE THE USE OF THE NAME " NAUTILUS POLYGYRATUS " REINECKE, 1818 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)402)

1. The present application is concerned with the problem raised by the generic name *Planites* de Haan, 1825 (: 34). This case has been discussed in my Monograph on the Ammonites of the English Corallian Beds (1936-37 : xxxv-xxxvii, lxiv-lxv), where the recommendation was made that the name *Planites* de Haan should be suppressed in order to avoid the chaotic confusion which would otherwise be inevitable. The facts of this case are set out below :—

(1) The generic name *Planites* de Haan, 1825 was applied in the first instance to all manner of ammonites from Lower Lias to Portland Stone, belonging to what are now regarded as many different families.

(2) In form and vagueness of application this genus ranks with *Ammonites*, *Ostracites*, *Pectinites*, etc., and for nearly a century this name was ignored by all authors.

(3) Buckman (S.) in 1913 (**2** : iv) revived the name *Planites* de Haan by selecting as the type species of the genus so named the nominal species *Nautilus polygyratus* Reinecke, 1818 (: 73, pl. v, figs. 45–46). This species was believed by Buckman to be the only nominal species originally included by de Haan in *Planites* that had not already been assigned to some other genus. It was however a far-fetched selection, for among all the varied species assigned to *Planites* by de Haan, *Nautilus polygyratus* Reinecke was mentioned by him only in connection with *Planites plicatilis* (Sowerby), in the synonymy of which Reinecke's *polygyratus* was cited (de Haan, 1825 : 87).

(4) The type specimen of the nominal species *Nautilus polygyratus* Reinecke is lost and the identity of the taxonomic species represented by this nominal species is a matter of uncertainty. There are two interpretations of this nominal species, the first by de Loriol (1877 : 61, pl. vii, figs. 1, 1a), which was accepted by Schindewolf (1926 : 512) and Spath (1931 : 444), the second by Wegele (1929 : 47, pl. i, fig. 6). The latter interpretation appears the more probable ; Wegele's figure of a supposed chorotype is reproduced in my monograph (1936 : pl. C, fig. 5).

2. Except from the standpoint of authors who accept an unwarrantable

pulverisation of genera, *Nautilus polygyratus* Reinecke, in Wegele's interpretation certainly, and probably also in that of de Loriol, Schindewolf and Spath, belongs to a group at most subgenerically distinct from *Perisphinctes* Waagen, 1869. Thus, under a strict application of the *Règles*, the name *Planites* de Haan, having been published in 1825, would take precedence over the name *Perisphinctes* Waagen, 1869 ; the latter would thus either fall as a synonym of *Planites* or at best become the name of a subgenus of *Planites*.

3. The name *Perisphinctes* Waagen applies to one of the most important of all ammonite genera, of long geological range and of world-wide distribution. This generic name has probably been more widely used in geological literature during the past eighty years than has that of any other cephalopod genus. To discard it on the strength of Buckman's revival of the long forgotten name *Planites* would be monstrous and would certainly lead to widespread confusion. Accordingly I consider that the name *Planites* de Haan, 1825, should be suppressed under the Commission's plenary powers. I am of the opinion also that it is desirable that the generic name *Perisphinctes* Waagen, 1869, should be protected as soon as possible by being placed on the *Official List of Generic Names in Zoology*. There is however a further problem in connection with this generic name which needs to be cleared up before it can be placed on the *Official List*. I am submitting to the Commission herewith a separate application on this subject.*

4. I consider further that the present opportunity should be taken to determine authoritatively the taxonomic species which is to be accepted as that represented by the nominal species *Nautilus polygyratus* Reinecke, for the name *polygyratus* is widely used and extremely well known and it is highly desirable that the present state of confusion and doubt regarding the manner in which this name should be used should be brought to an end with as little further delay as possible. I accordingly recommend that the Commission should make use of the extension of the plenary powers granted to it by the Thirteenth International Congress of Zoology in Paris in 1948 for the purpose of determining how the *Règles* should be applied in cases where it was doubtful to what species a given name should be held to apply (1950, *Bull. zool. Nomencl.* **4** : 324), and should, under the foregoing powers, designate the supposed chorotype figured by Wegele to be the figure by which the nominal species *Nautilus polygyratus* Reinecke is to be interpreted. So interpreted, *N. polygyratus* would be referable to the genus *Biplices* Siemiradzki, 1891 (: 63), if it were not for the fact that that name does not comply with the requirements of Article 8 and is, in consequence, invalid ; in these circumstances *N. polygyratus*, defined as suggested above, would be referable to *Orthosphinctes* Schindewolf, 1925 (: 324), the type species of which by original designation is *Ammonites tiziani* Oppel, 1863 (: 246) (which is also the type species of *Biplices* Siemiradzki, by selection by Buckman in 1921 (**3** : 31)). In my view, *Orthosphinctes* Schindewolf is a subgenus of *Perisphinctes* Waagen. In view of the connection of the generic name *Orthosphinctes* with the problem discussed in the present application, I suggest that it should be placed on the *Official List*.

*See pp. 191—193.

5. For the reasons set forth in the present application, I request the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers :—

(a) to suppress the generic name *Planites* de Haan, 1825, for the purposes of the Law of Priority but not for those of the Law of Homonymy ;

(b) to direct that the trivial name *polygyratus* Reinecke, 1818 (as published in the binominal combination *Nautilus polygyratus*) is to be held to apply to the species represented by the specimen from Pappenheim in Franconia figured in 1929 by Wegele (L.) as figure 6 on plate 1 in volume 72 of *Palaeontographica* in a paper entitled " Stratigraphische und faunistische Untersuchungen im Oberoxford und Unterkimmeridge Mittelfrankens ",;

(2) to place the undermentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology :—*

(a) *Planites* de Haan, 1825 (as proposed to be suppressed under the plenary powers under (1)(a) above) ;

(b) *Biplices* Siemiradzki, 1891 (invalid because not formed in accordance with the provisions of Article 8) ;

(3) to place the name *Orthosphinctes* Schindewolf, 1925 (gender of generic name : masculine) (type species, by original designation : *Ammonites tiziani* Oppel, 1863) on the *Official List of Generic Names in Zoology ;*

(4) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology :—*

(a) *polygyratus* Reinecke, 1818 (as published in the binominal combination *Nautilus polygyratus*) (as proposed to be determined under the plenary powers under (1)(b) above) ;

(b) *tiziani* Oppel, 1863 (as published in the binominal combination *Ammonites tiziani*) (type species of *Orthosphinctes* Schindewolf, 1925).

References :

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Wegele, L., 1929. " Stratigraphische und faunistische Untersuchungen im Oberoxford and Unterkimmeridge Mittelfrankens." *Palaeontographica*, **71** : 119 ; **72** : 1.

APPLICATION FOR THE SUPPRESSION UNDER THE PLENARY POWERS OF FIVE EARLY GENERIC NAMES NOW FALLEN INTO DISUETUDE PUBLISHED FOR AMMONITES (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

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(Commission's reference Z.N.(S.)423)

1. The following generic names have ceased to be used for genera of Ammonites for at least a century, but recent attempts to revive some of them by the selection of type species has shown that they constitute a menace to ammonite nomenclature and classification :—

Planulites Lamarck, 1801, *Syst. Anim. sans Vertèbr.* : 101.

Orbulites Lamarck, 1801, *ibid.* : 100.

Pelagus Montfort, 1808, *Conch. syst.* **1** : 62.

Ellipsolithes Montfort, 1808, *ibid.* **1** : 86.

Globites de Haan, 1825, *Specimen philosophicum exhibens Monographiam Ammoniteorum et Goniatiteorum :* 37. (The same work was published later in 1825 under the title : *Monographiae Ammoniteorum et Goniatiteorum Specimen.*)

2. *Planulites* Lamarck, 1801. In 1923 Buckman (pl. cccxciii) revived this name and reproduced Bourget's figure cited by Lamarck. It is unrecognizable, but might be a *Hildoceras*. If so, it invalidates the long-established genus *Hildoceras* Hyatt, 1867, and the family HILDOCERATIDAE Hyatt, 1867, in universal use.

3. *Orbulites*, *Pelagus*, *Globites*. It is uncertain whether some of these names correctly apply to ammonites or foraminifera, but Breistroffer (1947 : 81–82) has recently stated that at least the first two, and the third *pro parte*, invalidate *Phylloceras* Suess, 1865, one of the most important ammonite genera and the type genus of the family PHYLLOCERATIDAE Zittel, 1884.

4. *Ellipsolithes* Montfort, 1808. According to Fischer (1882 : 395) this is a synonym of *Perisphinctes* Waagen, 1869, another of the most important ammonite genera, and the type genus of the family PERISPHINCTIDAE Steinmann, 1890.

6. I accordingly request the International Commission to use its plenary powers to suppress the five generic names specified in the first paragraph of the present application on the ground that their re-introduction at the present time would lead to serious confusion and would serve no useful purpose whatever. I further ask that, when these names are suppressed, they be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

7. Further, since the object of the present application is to protect, from attack by the long forgotten names now proposed to be suppressed, the important generic names *Hildoceras* Hyatt, 1867, *Phylloceras* Suess, 1865, and *Perisphinctes* Waagen, 1869, I recommend that the two first of these names should at once be placed on the *Official List of Generic Names in Zoology* and that the trivial names of their respective type species should at the same time be placed on the *Official List of Specific Trivial Names in Zoology*. I do not make an immediate similar recommendation in the case of the name *Perisphinctes* Waagen, for in this case there is a further difficulty in regard to its type species, on which I have submitted a separate proposal to the International Commission (file Z.N.(S.)445). My immediate proposals for additions to the *Official Lists* are therefore as follows :—

(1) *Names proposed to be added to the "Official List of Generic Names in Zoology".*

Hildoceras Hyatt, 1867, *Bull. Mus. comp. Zool.* **1**(5) : 99 (type species, by subsequent selection, by Buckman (S.), 1889 (*Monogr. Inferior Oolite Ammonites* (Pal. Soc.) : 111) : *Ammonites bifrons* Bruguière, 1789, *Ency. méth.* (Vers) (1) : 40) (gender of generic name : neuter).

Phylloceras Suess, 1865, *SitzBer. Akad. Wiss. Wien* **52**(1) : 76 (type species, by original designation : *Ammonites heterophyllus* Sowerby (J.), 1820, *Min. Conch.* **3** : 119) (gender of generic name : neuter).

(2) *Names proposed to be added to the "Official List of Specific Trivial Names in Zoology".*

heterophyllus Sowerby (J.), 1820 (as published in the binominal combination *Ammonites heterophyllus*):

bifrons Bruguière, 1789 (as published in the binominal combination *Ammonites bifrons*).

References :

Breistroffer, M., 1947. *Trav. Lab. Géol. Grenoble*, **26** : 1.

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*See pp. 191—193.

PROPOSAL TO SUPPRESS THE GENERIC NAME " AMMONITES " BRUGUIÈRE, 1789, UNDER THE PLENARY POWERS AND TO PLACE THE GENERIC NAME " ARIETITES " WAAGEN, 1869 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) ON THE " OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY "

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(Commission's reference Z.N.(S.)425)

1. The question of the type species of the genus *Ammonites* Bruguière, 1789, has been discussed at length by Buckman (1923, 1924) and Spath (1924, 1946) and others. From these discussions the following essential points have emerged (paras. 2, 3, 4).

2. The type species of *Ammonites* Bruguière, 1789, is *A. bisulcatus* Bruguière, 1789, so selected by Meek, 1876.

3. *A. bisulcatus* Bruguière was based on a number of cited figures in 17th and 18th century authors.

4. The lectotype of *A. bisulcatus* Bruguière is the perspective figure in Lister, 1678 (vi, fig. 3), so selected by Buckman, 1923.

5. Buckman identified Lister's figure as a *Paltopleuroceras* (recte *Pleuroceras*) from the Upper Domerian and thought it came from Northamptonshire (Buckman, 1923 : 56–57, pl. cccxcii, Lister's figure reproduced).

6. Lister's text contains nothing to connect particular figures with particular localities, but of the localities mentioned by Lister the two rightly chosen by Buckman as most likely, the banks of Bugthorpe Beck and the hill above Byland Abbey, are both in Yorkshire as stated by Lister. The most likely locality is the banks of Bugthorpe Beck, which Fox-Strangways (1892 : 68) mentions as exposing sections principally in the zones of *A. bucklandi* and *A. angulatus*.

7. The detail of the carina, which is clear in Lister's engraving, is lost in Buckman's half-tone reproduction. What Buckman apparently took for a serrated carina is seen in Lister's engraving to be the rib-endings on the far side, shown (quite correctly) in perspective ; the carina is clearly shown in Lister's engraving as smooth.

8. These morphological data, combined with the probable locality, make it highly probable that the type specimen of Lister's pl. vi, fig. 3, is an Arietid (*sensu lato*) from the Sinemurian of Yorkshire, and it is possible that topotypes may one day be found sufficiently like Lister's figure to enable the genus to be interpreted.

9. Meanwhile a search of the Leckenby collection of Yorkshire ammonites and other rich Lias material in the Sedgwick Museum has failed to reveal to me anything identifiable beyond doubt as the genus figured by Lister. Spath (1946) has declared Lister's figure to be generically indeterminable, and Mr. D. T. Donovan, who has been specialising on Lias ammonites, agrees (*in litt.*).

10. The present position in accordance with the Rules, therefore, is that the genus *Ammonites* Bruguière, 1789, the family AMMONITIDAE Owen, 1836, and the superfamily AMMONITACEA Buckman, 1905, and ultimately the order Ammonoidea de Haan, 1825, rest upon a species of which the type specimen ("ultimate standard of reference") is unidentifiable generically, although probably one of the Sinemurian family ARIETITIDAE Hyatt, 1874.

11. If the position were left thus, a large part of the classification of Ammonoidea would be liable to be overturned at any time by authors who might claim to be able to identify the genus *Ammonites* from Lister's figure, and their nomenclature would be different from those who were unable to recognise the figure, and from those again who might interpret it differently.

12. Accordingly it is desirable that the International Commission should take action under their plenary powers at the earliest opportunity to stabilise the matter.

13. Two proposals have already been published: (A) Spath (1924 and 1946) has argued that a much later figure by some more modern author should be designated as the neotype of *A. bisulcatus* Bruguière, and the figure which he has proposed should be so selected is that by d'Orbigny (1843), which he considers represents what Meek (1876) had in mind when he designated *A. bisulcatus* lectotype of *Ammonites*. (B) Roman (1938) and Arkell (1940) have expressed the opinion that the genus *Ammonites* ought never to have been revived and should be abolished like many other ancient names long fallen into disuetude (e.g., *Ostracites*, *Pectinites*, etc.).

14. The disadvantages of the course in Para. 13(A) are (1) that as pointed out by Buckman (1924) such action is arbitrary in the extreme: if the genus *Ammonites* Bruguière, 1789, is to be revived, it should stand or fall by its legitimate type species, not have made for it a type species which was not known to exist until more than 50 years later; (2) that d'Orbigny's drawings are notoriously inaccurate and often synthetographs, and pl. 43 is apparently not based on a type specimen; (3) that the group to which d'Orbigny's pl.43 belongs has for 80 years had a familiar and widely-used generic name, *Arietites* Waagen, 1869 (type species by monotypy *Ammonites bucklandi* J. Sowerby, 1816, Sinemurian zonal index fossil), which is in turn type genus of the widely-used family ARIETITIDAE Hyatt, 1874. Apart from the little-known paper by Meek, 1876 (unknown even to Buckman), the genus *Arietites* and the family ARIETITIDAE (or ARIETIDAE) had been used for half a century in all world literature on Liassic ammonites and in text-books. One of the classics of ammonites is Hyatt's book "Genesis of the ARIETIDAE" (1889), and the leading palaeontological text-book to this day, Eastman's translation of Zittel (1913: 655) has a figure "*Arietites bisulcatus* Bruguière" to illustrate the family ARIETINAE,

and the figure is d'Orbigny's pl. 43 ; and the same figure and the same name are repeated in the latest (German) edition of the same book (1924 : 571).

15. The facts adduced in paragraph 14 above, emphasise that *Ammonites* as used by Buckman and Spath since 1923 was a revival not a survival, and paragraphs 5 to 13 indicate that it was a revival on the flimsiest foundations. Roman (1938) in his comprehensive work on the Jurassic and Cretaceous ammonites rightly refused to displace *Arietites* and ARIETITIDAE by *Ammonites* and AMMONITIDAE.

16. If the generic name *Ammonites* were to be revived, it would become automatically the type genus of the family AMMONITIDAE, which for reasons of priority is attributed (as by Meek) to Owen, with the date 1836. This is misleading, for AMMONITIDÆ Owen 1836 was a vastly wider and altogether different concept. Most families as now used have been emended (which usually means restricted) to some extent, but none to such a degree as this. AMMONITIDAE Owen, 1836, was in fact almost the same as the order AMMONOIDEA, and as de Haan's " family AMMONITEA ", 1825. Consequently, the revival of *Ammonites* as a generic name would involve either its attribution to the family " AMMONITIDAE Owen " which is really something totally different, or the establishment of a new family AMMONITIDAE dating from some later author such as Meek or Spath, arbitrarily chosen (Meek, however, still included cretaceous genera in AMMONITIDAE) ; but this would be a homonym of AMMONITIDAE Owen and invalid.

17. Dr. Spath in his paper of 1946 stated that he proposed to submit an application concerning the type of *Ammonites* to the International Commission, but I learn from the Secretary that no such application has yet been received by the Commission (January, 1950). Since a decision on this important matter is urgently needed, I hereby make the following applications (paragraphs 18, 19).

18. That the International Commission on Zoological Nomenclature should use their plenary powers to suppress the generic name *Ammonites* Bruguière, 1789, for the purposes of Article 25 but not for those of Article 34 (thereby continuing to render invalid as a homonym any later use of the word *Ammonites* as a generic name) and should place this name on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

19. That the Commission should place on the *Official List of Generic Names in Zoology* the generic name *Arietites* Waagen, 1869 (gender of generic name : masculine) (type species, by monotypy : *Ammonites bucklandi* Sowerby (J.), 1816) and on the *Official List of Specific Trivial Names in Zoology* the trivial name *bucklandi* Sowerby (J.), 1816 (as published in the binominal combination *Ammonites bucklandi*).

20. In making this application I assume that when (if ever) the Commission draws up Rules governing the names of taxonomic categories higher than families, it will, if necessary, make provision for retention of the order name AMMONOIDEA, so that it shall not require to be replaced because of the abolition of the generic name *Ammonites* and family name AMMONITIDAE.

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ON THE GENERIC NAMES "SCHLOTHEIMIA" BAYLE, 1878, AND "SCAMNOCERAS" LANGE, 1924; PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE NAME "AMMONITES ANGULATUS" SCHLOTHEIM, 1820 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)422)

1. The generic name *Schlotheimia* was introduced by Bayle in 1878 in the explanation of his pl. 65, fig. 1, in the combination *Schlotheimia angulata* Schlotheim. No text was published. In the following year a list of the type species of Bayle's genera was published by H. Douvillé (1879 : 91) and in this *A. angulatus* Schlotheim was categorically stated to be the type species of *Schlotheimia* Bayle.

2. The figure given by Bayle in illustration of this species is commonly believed to differ from *Ammonites angulatus* Schlotheim at least subgenerically. It was therefore renamed *S. princeps* by Buckman (1923 : pl. ccexcv, where Bayle's figure is reproduced and labelled "genotype").

3. In accordance with the general practice of the 1920's, Bayle's genus was considered to have been based on the material handled by him, and *S. princeps* has been cited as type species of *Schlotheimia* by Buckman (1923, *loc. cit.*), by Spath (1924 : 197 ; 1925 : 201) and by Lange (1925 : 469). Lange (1924 : 198) proposed the generic name *Scamnoceras* for *Ammonites angulatus* Schlotheim.

4. The position stated in para. 3 could only be legalised by suspension of the Rules. As the Rules stand, *A. angulatus* Schlotheim, 1820, is the type species of *Schlotheimia* by monotypy, and the generic name *Scamnoceras* Lange, 1924, is an objective synonym of *Schlotheimia* Bayle, 1878.

5. The combination *Schlotheimia angulata* had been familiar and had become current in the literature for 45 years before the refinements introduced in the 1920s (see para. 3), and many authors have continued to use it since. So familiar is this combination, and so important the species *A. angulatus* Schlotheim, that a permanent settlement of the question is urgently needed. (See paras. 6 and 7.)

6. The zone of *Ammonites angulatus* was set up by Oppel (1856 : 14) and has been constantly used in stratigraphical geology ever since. It represents an important series of strata which are developed throughout Europe and also elsewhere. From the geologist's point of view a change of the name of this zone cannot be contemplated,

7. The family ANGULATIDAE was founded by Hyatt (1874 : 15) for *A. angulatus* and its allies, and is still in general use under the corrected name SCHLOTHEIMIDAE Spath (1925 : 201). SCHLOTHEIMIDAE having comparatively recently replaced ANGULATIDAE in the literature, it is obviously desirable that the type species of *Schlotheimia* should be *A. angulatus*, which was in fact Hyatt's original type although he made a technical error in basing a family upon a species.

8. There are, however, the following difficulties in recognising the species *A. angulatus* Schlotheim and upholding it as the type species of the genus *Schlotheimia* and thence of the family SCHLOTHEIMIDAE, and as index of the Angulatus Zone. (See paras. 9, 10.)

9. *Ammonites angulatus* Schlotheim (1820 : 70) was at publication a homonym of *A. angulatus* J. Sowerby (1815 : 2 : 9, pl. cvii, fig. 1), an ammonite described by Sowerby as " a rare and curious specimen ", from the Upper Lias and belonging to an entirely different genus (*Dactylioceras* Hyatt, 1867 : p. 95. Type species : *A. annulatus* Sowerby, selected by Buckman, 1911). There never has been and never can be any risk of confusion, for the two genera belong to different families and the homonymy has not hitherto been noticed. The name *Dactylioceras angulatum* (Sowerby) is unknown in the literature. Quenstedt (1846 : 173) considered it a synonym of *D. commune* (J. Sowerby, 1815) and was probably right.

10. *A. angulatus* Schlotheim (1820 : 70) was never figured by its author. Its validity rests on (a) a brief description and localities, and (b) citations of four figures : Scheuchzer, 1718, fig. 50, and Bourget, 1742, figs. 272, 273, 275. Mr. D. T. Donovan points out that all Bourget's three figures are copies of figures in Scheuchzer, and that in particular Bourget's fig. 272 is a copy of Scheuchzer's fig. 50 ; and that therefore only three figures have to be considered. He also points out that Bourget's figs. 272 and 273 are described in their explanations as having keels, a point evidently not noticed by Schlotheim whose description of *A. angulatus* specifies that there is no keel or furrow on the venter. These two figures therefore should be ruled out, leaving Bourget's fig. 275 (copied from Scheuchzer's fig. 24) as the only eligible syntype among the cited figures. But, like the figure of the type species of the genus *Ammonites* Bruguière, this figure is unrecognisable ; it could be a Cretaceous Hoplitid.

11. *A. angulatus* Schlotheim therefore must rest solely on Schlotheim's description, supported by his localities. These are " From the neighbourhood of Coburg, from Heinberg and the Bamberg region ", and the description which reads " Distinguished from other ammonites by its ribbing, which is strongly developed and joined to make an acute angle on the sharp venter, without any ventral line."

12. Schlotheim mentioned that his material consisted of 15 specimens. None of these has since been figured, and the present whereabouts of the collection is unknown. The first author to use Schlotheim's name, however,

Quenstedt (1845 : 74, pl. iv, fig. 2), consulted the type material, for he wrote "That this alone is Schlotheim's *angulatus* is proved by the specimens in Schlotheim's collection in Berlin, and the short but exact description in the Petrifactenkunde, p. 71". It is therefore proposed that Quenstedt's pl. iv, fig. 2c, 2d should be taken as the basis for the recognition of *Ammonites angulatus* Schlotheim. The locality is Bempflingen, Swabia.

13. The considerations mentioned in paras. 6 and 7 make this a clear case where it is desriable that the Commission should use its plenary powers to set aside an earlier homonym of no use in nomenclature in order to save a later homonym of over a century's standing in the literature and a key name in stratigraphical geology as well as in ammonite systematics. (Cf. *Sphaeroceras* Bayle dealt with in Commission file Z.N. (S.) 405).*

14. I accordingly recommend that the International Commission on Zoological Nomenclature should :—

(1) use its plenary powers :—

(a) to suppress for all purposes the trivial name *angulatus* Sowerby (J.), 1815 (as published in the binominal combination *Ammonites angulatus*) ;

(b) to validate the trivial name *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*) ;

(c) to direct that the trivial name *angulatus* Schlotheim, 1820 (as published in the foregoing binominal combination) is to be applied to the species figured by Quenstedt under the above name in 1845 (*Die Cephalopoden*) as figs. 2c and 2d on plate iv of the above work ;

(2) place on the *Official List of Generic Names in Zoology* the generic name *Schlotheimia* Bayle, 1878 (gender of generic name : feminine) (type species, by monotypy : *Ammonites angulatus* Schlotheim, 1820, validated as in (1)(b), and defined as in (1)(c) above) ;

(3) place the generic name *Scamnoceras* Lange, 1924, on the *Official Index of Rejected and Invalid Generic Names in Zoology* ;

(4) place the under-mentioned specific trivial names on the *Official List of Specific Trivial Names in Zoology* :—

(a) *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*), as validated and defined in (1) above ;

(b) *princeps* Buckman, 1923 (as published in the binominal combination *Schlotheimia princeps*) ;

(5) place the trivial name *angulatus* Sowerby (J.), 1815 (as published in the binominal combination *Ammonities angulatus*) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

*See pp. 164—166.

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ON THE RELATIVE STATUS OF THE NAMES "ARIETICERAS" SEGUENZA, 1885, AND "SEGUENZICERAS" LEVI, 1896 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)486)

1. The name *Arieticeras* was published by Quenstedt (1883 : 44) as follows :

"Typus dieser merkwürdigen Gruppe ist ein so bestimmter, dass man ihn nur durch einen besonderen Namen *Arietes* abgrenzen kann . . . [describes the 'Family'] . . . Waagen erhob sie zu einem Untergeschlecht *Arietites*. Wenn man jedoch ausser dem Wort Arieten noch das Bedürfniss einer besondern Benennung fühlt, so sollte man sie einfach *Arieticeras* nennen, dann wüsste jeder Kenner von vornherein, was man meint."

Hence, if *Arieticeras* is a valid generic name, it is a substitute name for, and therefore objective synonym of, *Arietites* Waagen, 1869.

Quenstedt himself otherwise than in the foregoing passage used the name *Arieticeras* only once (1883 : 113). When describing his *Ammonites nudaries* he remarked : "Trotz dieser Unvollkommenheit scheint es doch eine gute Spezies zu sein, deren Name *Arieticeras nudus* sich wegen der so augenfälligen Nacktheit gleichsam von selbst ergäbe. Nach alter Angewohnheit setze ich jedoch denselben lieber in *Ammonites nudaries* um, worin kurtz die wesentlichsten Kennzeichen angedeutet sind."

2. In 1885, Seguenza (: 255) published a genus *Arieticeras* with four genosyntypes, of which *Ammonites algovianus* Oppel (1862 : 137) was placed first. *A. algovianus* Oppel was selected as the type species by Levi (1896 : 272).

3. In 1896, Levi (: 272) published the generic name *Seguenziceras*, with type species by original designation *Ammonites algovianus* Oppel (1862 : 137), as substitute for *Arieticeras* Seguenza, on the grounds that the latter was preoccupied by *Arieticeras* Quenstedt, 1883.

4. *Seguenziceras* Levi has been accepted by Buckman (1913 : 74 b and pl. lxxiv) and Spath (1924 : 192), who founded on it the family SEGUENZICERATIDAE.

5. *Arieticeras* Seguenza, on the other hand, has continued to find acceptance by, for instance, Hyatt (1900 : 576), Haas (1913, 1947), Pia (1913 : 488 ; 1918 : 319), and Roman (1938 : 112). Dr. Haas (1947 : 79) considers that he had "proved Levi's argument, that *Arieticeras* was preoccupied as a generic name by Quenstedt, to be entirely unfounded."

6. Various obviously invalid arguments have been advanced against the acceptance of *Arieticeras* Quenstedt, 1883, as a validly published name, such as (1) that it has fallen into desuetude which, even if true—in fact the name has never been used since it was first published—would be irrelevant; (2) that it was published in the same year (1885) as *Arieticeras* Seguenza, which is incorrect, as the relevant *Heft* of Quenstedt's book was published in 1883; (3) that it is a synonym of *Arietites* Waagen, 1869, which is irrelevant. There is, however, one argument that has been advanced against the acceptance of *Arieticeras* Quenstedt, the validity of which under the *Règles* is arguable and on which a ruling from the International Commission is now sought. Under this argument Quenstedt ought not to be treated as having validly published the generic name *Arieticeras*, for he clearly had no intention of doing so. All his life Quenstedt stood out against the splitting up of the old comprehensive genus *Ammonites*; all that he did on this occasion was to make a casual and carping remark that "if, however, one felt the need for a special name" for the Arietids, it would be better to call them *Arieticeras* rather than *Arietites* (as Waagen had done). Further it was only casually that on a later page he wrote that the species which he was there discussing could be called "*Arieticeras nudus*" instead of "*Ammonites nudaries*," the latter being the name which he preferred.

7. It is of no consequence whether *Arieticeras* Seguenza, 1885, is retained for the genus concerned or whether the name *Seguenziceras* Levi, 1896, is used in its place. It is of importance, however, that workers should know which is the correct name and this cannot be finally determined until an authoritative ruling is given by the International Commission on the question whether the name *Arieticeras* Quenstedt, 1883, was duly published in accordance with the provisions of Article 25 and therefore whether it renders the later name *Arieticeras* Seguenza, 1885, an invalid junior homonym.

8. The International Commission on Zoological Nomenclature is accordingly asked :—

(1) to give a ruling on the question whether the term *Arieticeras*, published by Quenstedt in 1883, is to be treated as constituting a generic name satisfying the requirements of Article 25;

(2) depending on the ruling given under (1) above, to take the following action :—

(a) *if* Arieticeras *is ruled to have been published* by *Quenstedt in* 1883 *as a generic name satisfying the requirements of Article* 25, to place :

(i) *Seguenziceras* Levi, 1896 (type species, by original designation : *Ammonites algovianus* Oppel, 1862) (gender of generic name : neuter), on the *Official List of Generic Names in Zoology*;

(ii) *Arieticeras* Seguenza, 1885 (type species, by selection by Levi, 1896 : *Ammonites algovianus* Oppel, 1862) (an invalid junior homonym of *Arieticeras* Quenstedt, 1883) on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(b) *if it is ruled that the term* Arieticeras, *as published by Quenstedt in* 1883, *is not to be treated as a generic name possessing priority as from that date,* to place :—

(i) *Arieticeras* Seguenza, 1885 (type species, as specified in (a) (ii) above) (gender of generic name : neuter) on the *Official List of Generic Names in Zoology ;*

(ii) the cheironym *Arieticeras* Quenstedt, 1883, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(iii) *Seguenziceras* Levi, 1896 (an objective synonym of *Arieticeras* Seguenza, 1885, of which the same species is the type species) on the *Official Index of Rejected and Invalid Generic Names*) *in Zoology ;*

(3) irrespective of the ruling to be given under (1) above, to place the trivial name *algovianus* Oppel, 1862 (as published in the binominal combination *Ammonites algovianus*) on the *Official List of Specific Trivial Names in Zoology.*

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ON THE RELEVANCE TO THE AVAILABILITY OF A NAME UNDER THE "RÈGLES" OF THE QUESTION WHETHER THE AUTHOR, WHEN PUBLISHING THAT NAME, INTENDED IT TO BE AVAILABLE FOR USE AS A SCIENTIFIC NAME

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(Commission's reference Z.N.(S.)486)

1. The application submitted to the International Commission on Zoological Nomenclature by Dr. W. J. Arkell in regard to the relative status of the generic names *Arieticeras* Seguenza, 1885, and *Seguenziceras* Levi, 1896 (Class Cephalopoda, Order Ammonoidea) deals in itself with a matter of interest only to students of ammonites. But, as Dr. Arkell points out, the foregoing question cannot be answered by the Commission unless at the same time it gives a ruling on the only question of doubt raised in this case, namely whether a name duly published with an indication is or is not to be rejected on the ground that the author when publishing the name in question did not intend his action to be taken as constituting the publication of a new scientific name.

2. At their meeting held in Paris in 1948 the International Commission on Zoological Nomenclature agreed that in future decisions on individual names should, as heretofore, be rendered in *Opinions* but that decisions of a general character affecting the interpretation of the *Règles* should not be published in that series but should be rendered in the series "*Declarations*" (see 1950, *Bull. zool. Nomencl.* **4**: 136–137); this proposed change in procedure was reported to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology (1950, *loc. cit.* **5**: 68) and, with the remaining recommendations of the Section on Nomenclature was approved by the Congress in Plenary Session (1950, *loc. cit.* **5**: 131). In order therefore to deal with the case submitted by Dr. Arkell, it will be necessary for the Commission, first, to render a *Declaration* on the question of principle implicit in Dr. Arkell's application, and, second, in the light of the *Declaration* so rendered, to reach a decision on the relative status of the two generic names which forms the subject on which Dr. Arkell is directly concerned to obtain a ruling.

3. *The twofold issue to be considered:* In considering the question to be dealt with in the required *Declaration*, two issues of a totally distinct kind are involved: (1) Do the *Règles*, as amended by the Thirteenth International Congress of Zoology, provide that a name, which is (a) duly published and (b) is on that occasion accompanied by a description, definition or indication, is to be rejected if it can be shown that the author who published that name did so for some purpose other than for it to be used as a scientific name? (2) Whatever may be the answer to the question posed in (1) above, is the position under the *Règles* disclosed by the answer given to that question a desirable one? There is thus a question of fact to be answered and a question of policy to be determined,

4. *The question of fact :* Article 25 provides that the nomenclatorially available name for an animal is the first name to have been published for that animal provided that certain conditions are satisfied. Where those conditions are satisfied, a name is an available name and possesses rights under the Law of Priority ; where those conditions are not satisfied, the name in question is an invalid name and possesses no rights under the Law of Priority. The conditions which determine the availability of every scientific name in zoological nomenclature are specified in Provisos (a) and (b) to Article 25, while in Proviso (c) certain more stringent provisions are added that are applicable only to names published after 31st December 1930. Proviso (a) prescribes that a name must be duly published (" divulgué dans une publication ") ; it provides also that a name must, when first published, be accompanied by an indication, definition or description. Proviso (b) provides that the work in which the name appears must have been one in which the author concerned consistently applied " les principes de la nomenclature binominale " (formerly " nomenclature binaire ") (see 1950, *Bull. zool. Nomencl.* **4** : 63-66, 175). Proviso (c) provides that a name published after 31st December 1930, must, in addition to satisfying the requirements of Provisos (a) and (b), be accompanied by certain specified kinds of information and, if a generic name, must be accompanied with a designation (or indication) of the type species of the genus so named ; this Proviso was somewhat liberalised by the Paris Congress for the purpose of eliminating undesirably ritualistic provisions but its general content remained unchanged. In none of these Provisos is there any provision invalidating an otherwise available name on the ground that the author by whom it was published did not intend it to be used as a scientific name, notwithstanding the fact that he had published it. On the question of fact there can therefore be no room for argument.

5. *The question of policy :* Having seen that the *Règles* in their present form contain no provision invalidating an otherwise available name where it can be shown that the author who pubished that name nevertheless did not intend that it should be used as a scientific name, we have now to consider whether it is desirable that in this respect the *Règles* should be amended by the next International Congress of Zoology in such a way as to invalidate a name published in the foregoing circumstances. I am bound to say that, in my view, such a provision would be unsound in principle and would in practice lead to unnecessary time-consuming bibliographical investigations and to confusion and instability in zoological nomenclature. I consider that such a provision would be wrong in principle, for it would introduce into the *Règles* an element which should be wholly excluded from any code of law, namely a criterion of a subjective character which by its nature would be incapable of providing an unchallengeable interpretation in relation to any given name. At Paris in 1948 the Commission and the Congress were at pains—and rightly—to eliminate from the *Règles* provisions involving subjective judgments on the part of the reader, seeking everywhere to secure that the provisions in the *Règles* should be such as called only for the ascertaining of objective nomenclatorial facts. To reverse this principle in the present case would, therefore, in my view, be a highly retrograde and undesirable step. Such a course, it seems to me, would not only be wrong in principle, but would constitute a serious impediment to

the ordinary work of the systematic zoologist, for in the case of every name that he used, he would first have, as at present, to satisfy himself that it complied with the requirements of the Provisos to Article 25, and, having done so, to satisfy himself that the author by whom the name had been published had intended the name to be at least available for use as a scientific name. Further, such a provision would add an intolerable burden to the zoologist when seeking to make sure whether a generic name that he proposed to use was not pre-occupied elsewhere in the Animal Kingdom, for he would need to do much more than to ascertain (as at present) by reference to Zoological *Nomenclators* or otherwise whether the word in question had previously been published as a generic name in conditions which satisfy the provisions of Article 25 ; he would need also to ascertain whether if the word in question had previously been so published, it had been seriously published or had been published for some purpose—Dr. Arkell refers to Quenstedt's carping attitude towards Waagen—other than a desire to publish a new scientific name. In an exceptional case such as that submitted by Dr. Arkell, where both the generic names related to genera in the same Order (Ammonoidea), no great inconvenience would be caused to the worker concerned, but that case is exceptional for, in most cases it would be necessary for the conscientious zoologist to examine a work belonging to a group with which he was wholly unfamiliar in order to determine whether the author of that work had acted seriously or not in publishing the name in question. Finally, a provision of the kind under discussion could not fail to lead to confusion, for any provision depending for its interpretation upon a subjective judgment to be formed by the reader must by its nature lead to different results in the hands of different readers. I conclude therefore that from every point of view the introduction into the *Règles* of a provision invalidating a name which, though otherwise available, could be held to have been published by its author for some purpose other than use as a scientific name, would be open to the strongest objection.

6. I recognise that here and there in the old literature there may be found examples, of which the name *Arieticeras* as published by Quenstedt in 1883 certainly appears to be one, where an author irresponsibly published a name or names for some purpose other than for use as scientific names, but such cases are, no doubt, extremely rare—I know of only one such case in my own group (Lepidoptera). It does not follow however that, where a name is irresponsibly published in this way, its publication would do any harm to nomenclature—in the case of *Arieticeras* Quenstedt, Dr. Arkell has made it clear that it is a matter of indifference whether the name in question is treated as being available or not. On the rare occasion where the fact that such a name was an available name would lead to greater confusion that uniformity, it would also be within the power of the International Commission on Zoological Nomenclature to take the necessary remedial action under its plenary powers.

PROPOSED VALIDATION OF THE NAME "ARISPHINCTES" BUCKMAN, 1924, BY THE SUPPRESSION, UNDER THE PLENARY POWERS, OF THE NAME "TOXOSPHINCTES" BUCKMAN, 1923 (CLASS CEPHALOPODA ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)389)

1. The present application is concerned with the relative precedence to be accorded to the generic names *Arisphinctes* Buckman, 1924, and *Toxosphinctes* Buckman, 1923 (Class Cephalopoda, Order Ammonoidea) (Jurassic). This case was fully discussed by me in 1939 in "A Monograph on the Ammonites of the English Corallian Beds" (Palaeont. Society) (Part 5 : lv-lvii). The relevant facts are as follows.

2. S. Buckman published the name *Arisphinctes* (1924, *Type Ammonites* **5** : 33, pls. dxi, dxii) for a genus of large Perisphinctids of Upper Oxfordian date, characterised by ribbing that gradually modifies on the outer whorl and fades on the venter and by sutures with a long suspensive lobe. Buckman designated *Arisphinctes ariprepes* Buckman, 1924 (*loc. cit.* : pl. dxi) as the type species of this genus. He also figured the holotype of this species which was a complete and well preserved specimen.

3. *Arisphinctes* Buckman, 1924, is now regarded (Arkell, 1939 : lvi-lvii) as a subgenus of the genus *Perisphinctes* Waagen, 1869. Further, the nominal species *Arisphinctes ariprepes* Buckman, 1924, is now identified with the nominal species *Perisphinctes cotovui* Simionescu, 1907 (: 151, pl. vii, fig. 1). Accordingly the trivial name *ariprepes* Buckman is now treated as a subjective junior synonym of the trivial name *cotovui* Simionescu.

4. In 1923 (the year before that in which the name *Arisphinctes* was published), Buckman had published another generic name *Toxosphinctes* (*Type Ammonites* **5** : pl. cdxlvii) ; the genus so named was based upon a single specimen, the re-discovered holotype of *Ammonites pickeringius* Young and Bird, 1822 (: 251, pl. xii, fig. 9), which is therefore the type species of *Toxosphinctes*. The holotype of this species, which was refigured by Buckman, shows characters quite different from those of *Arisphinctes* ; it has fine sharp ribbing all over, not modified, not faded on the venter, and suture with short suspensive lobe. Buckman evidently did not suspect any close affinity with *Arisphinctes*. The species which are the respective type species of these two genera came from different parts of England but from the same zone.

5. When the Corallian ammonites came to be monographed and all available material was compared, it was discovered that the holotype of the type species of *Toxosphinctes* was an incomplete specimen, probably representing only

the inner and middle whorls of a large species which later acquires the characters of *Arisphinctes*. *Perisphinctes pickeringius* (Young and Bird, 1822) as interpreted in the monograph cited above, is closely allied to *Perisphinctes* (*Arisphinctes*) *cotovui* Simionescu, 1907, the type species of *Arisphinctes*.

6. Since the specimen upon which Buckman founded the genus *Toxosphinctes* is incomplete and there are several subgenera with similar inner and middle whorls which cannot be distinguished from one another, except by the outer whorls, it can never be proved that this specimen belongs to a species having the same characteristics as *Arisphinctes*. It will always remain an uncertain factor, liable to re-interpretation by subsequent authors.

7. On the other hand, although the name *Arisphinctes* was published a few months later than *Toxosphinctes*, the genus *Arisphinctes* was founded upon a complete specimen and in consequence the characters of the type species of this genus can never be in doubt. In my monograph, therefore, I discarded (: lvi *et seq.*) the name *Toxosphinctes* and used the name *Arisphinctes*. In the twelve years which have since elapsed, no published dissent from this procedure has come to my notice, nor has any dissent been received by me in correspondence.

8. Accordingly, in order to secure that the currently used generic name *Arisphinctes* shall be secure from possible supersession merely on grounds of priority by the *nomen dubium Toxosphinctes* (which never to my knowledge has been used in print since it was first published in 1923) and to prevent the confusion and incovenience which an unnecessary change of this kind would involve, I ask the International Commission on Zoological Nomenclature to use its plenary powers to stabilise the generic nomenclature of this group and, having done so, to place the name *Arisphinctes* on the *Official List*. The specific proposals which I therefore submit are that the Commission should :—

(1) use its plenary powers to suppress the generic name *Toxosphinctes* Buckman, 1923, for the purposes of the Law of Priority, but not for those of the Law of Homonymy ;

(2) place the generic name *Arisphinctes* Buckman, 1924 (type species, by original designation : *Arisphinctes ariprepes* Buckman, 1924) (gender of generic name : masculine) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *cotovui* Simionescu, 1907 (as published in the binominal combination *Perisphinctes cotovui*) on the *Official List of Specific Trivial Names in Zoology ;*

(4) place the generic name *Toxosphinctes* Buckman, 1923 (as proposed, under (1) above, to be suppressed under the plenary powers) on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

References :

Arkell, W. J., 1935-1948. *A Monograph on the Ammonites of the English Corallian Beds* (Palaeontograph. Soc.).

Buckman, S., 1919-1930. *Type Ammonites*, vols. **3-7** (Thame).

Simionescu, I., 1907. Studii geologice si pal. din Dobrogea, **1**, Fauna cefalopodelor jurasice dela Harsova (Dobrogea). *Public. Fond. Adamachi Acad. Romana* **4** (21) : 151, pl. vii, fig. 1 (lectotype selected by Arkell, 1939, *loc. cit.* : 126).

Young, G. and Bird, J , 1822. *A Geological Survey of the Yorkshire Coast*, 1st Edition. (Whitby).

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF THE GENUS "ARNIOCERAS" HYATT, 1867 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

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(Commission's reference Z.N.(S.)509)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of the genus *Arnioceras* Hyatt, 1867 (*Bull. Mus. comp. Zool.* **1** : 73) (Class Cephalopoda, Order Ammonoidea), a species, other than that which would be the type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 158-159) as that to be followed in the case of genera based upon misidentified type species.

2. The facts in this case are as follows : The generic name *Arnioceras* was first published by Hyatt in 1867, and has been in constant use ever since. No type species was designated or indicated at the time of publication ; seven nominal species were cited as belonging to the genus so named. These species were : (1) *Arnioceras cuneiforme* Hyatt (a species then named—on page 73 – for the first time) ; (2) *Arnioceras incipiens* Hyatt (also then a new nominal species but which later Hyatt (1889 : 170) identified with the earlier nominal species *Ammonites falcaries* Quenstedt, 1858 : 70) ; (3) *Arnioceras semicostatum* (Young & Bird, 1828 : 257, 259) ; (4) *Arnioceras kridiforme* Hyatt (a new nominal species based upon the species identified by d'Orbigny in 1844 as *Ammonites kridion* Hehl *in* Zieten [1830]) ; (5) *Arnioceras tardecrescens* (Hauer, 1856 : 20) ; (6) *Arnioceras ceratitoides* (Quenstedt, 1847 : 239) ; (7) *Arnioceras falcaries* (Quenstedt, 1858 : 70). In accordance with his normal practice, Hyatt attributed all but one of these names to himself, because he placed the species concerned in a genus different from that in which they had originally been described. The one exception made by Hyatt was in regard to the sixth of the nominal species referred by him to this genus ; this species he cited as "*A. ceratitoides* L. Agassiz." The probable explanation is provided by Hyatt's statement (1867 : 71) that Agassiz had selected five genera which Hyatt "referred to his authority," and that Agassiz was responsible for suggesting the work to Hyatt and for proposing to classify the ammonites dealt with into families and genera. Presumably *ceratitoides* was a specific trivial name also suggested by Agassiz. It had not however been published by Agassiz at the time that Hyatt's paper appeared.

3. The first author to select a type species for the genus *Arnioceras* was Buckman (S.), who in 1911 (**1** : vi) wrote : "The type [species] is definitely indicated by the generic name and by the species credited to Agassiz *Arnioceras* (ἀρνειός, a ram) indicates a type with trivial name *ceras* or similar." Buckman

drew attention also to the fact that in 1889 (: 169) Hyatt identified *Ammonites ceras* Giebel & Hauer, with *Ammonites ceras* Agassiz. " On this evidence," Buckman thought it desirable to select *Am. ceras* as figured by Hyatt in 1889 (*Gen. Ariet.* : pl. ii, fig. 20) as the type species of *Arnioceras* Hyatt ; Buckman wrote : " Result : Genus *Arnioceras* Agassiz-Hyatt, 1867. Type *A. ceratitoides* Agassiz, of which *A. ceras* Agassiz (Hyatt, Gen. Arietidae, ii, 20) is genolectotype." It should be noted that in 1867 (: 74) Hyatt had placed *A. ceras* Giebel, 1852 (: 757) in the synonymy of " *Arnioceras ceratitoides* Agassiz."

4. The first name placed by Hyatt (1867 : 74) in the synonymy of " *A. ceratitoides* Agassiz " was *Ammonites ceratitoides* Quenstedt, 1847 (: 239, pl. xix, fig. 13—not fig. 3, as erroneously stated by Hyatt). Quenstedt's publication of this name in 1847 was the first occasion on which it was used for this ammonite species. Thus, under the decision of the Paris (1948) Congress defining the species which are to be regarded as having been originally included in any given genus (1950, *Bull. zool. Nomencl.* **4** : 179-180, Buckman's action in 1911 constitutes a valid selection of *Ammonites ceratitoides* Quenstedt, 1847, as the type species of *Arnioceras* Hyatt, 1867.

5. *Ammonites ceratitoides* Quenstedt, the type specimen of which is lost (Jaworski, 1931 : 117), is a Triassic ammonite, entirely different morphologically and in age from the Liassic group for which the generic name *Arnioceras* Hyatt has always been used. To transfer the name *Arnioceras* to Quenstedt's species would produce chaotic confusion.

6. *Ammonites ceras* Agassiz, as identified by Hyatt in 1889 (: 169, pl. ii, fig. 20), which is the species which Buckman intended to make the " genolectotype " of *Arnioceras* Hyatt, was merely Hyatt's attempted interpretation of *Ammonites ceras* Giebel, 1852 (: 757), a species, the identity of which is uncertain. It is possible that, if his type specimens were to be found and re-studied, the species identified by Hyatt with *Ammonites ceras* Giebel might be found to be different and might need to be given a new name. In any case, under the decision of the Paris Congress to which reference has already been made, it would not have been possible to accept, as the type species of *Arnioceras*, Hyatt's interpretation of *A. ceras* Giebel, for, even if it had been permissible under the *Règles* to treat " *A. ceras* " as the type species of this genus, the species concerned would have to be the true *Ammonites ceras* of Giebel, which (as already explained) is an unknown quantity.

7. The genus *Arnioceras* Hyatt is thus a genus based upon a misidentified type species and in consequence the International Commission on Zoological Nomenclature is bound by the instructions given to it by the Congress to use its plenary powers to designate as the type species of this genus either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b), if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage, except where (as is not the case in the present instance) such action would itself lead to confusion. We have seen that the identity of the species which Buckman intended to refer to,

when selecting the type species of *Arnioceras* Hyatt is doubtful; accordingly, under the foregoing decision, it is necessary under the plenary powers to select, as the type species of this genus, a species in harmony with current practice. It is not necessary for this purpose that the species to be so selected should be one of the species originally included in the genus, though it is clearly preferable that, if practicable, such a species should be selected.

8. I have accordingly examined from the foregoing point of view each of the seven nominal species originally included by Hyatt in the genus *Arnioceras*. This examination indicates that *Arnioceras cuneiforme* Hyatt, 1867, is nearest to the figure that has hitherto been regarded as representing the type species of this genus, and is the freest from objections of various kinds. I accordingly recommend that it should now be designated as the type species of *Arniococeras* Hyatt.

9. The proposal which I now submit is therefore that the International Commission on Zoological Nomenclature should :—

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, use its plenary powers (a) to set aside all selections of type species for the genus *Arnioceras* Hyatt, 1867, made prior to the proposed decision, and (b), having done so, to designate *Arnioceras cuneiforme* Hyatt, 1867, to be the type species of the foregoing genus ;

(2) place the generic name *Arnioceras* Hyatt, 1867 (type species, as proposed in (1) above to be designated under the plenary powers : *Arnioceras cuneiforme* Hyatt, 1867) (gender of generic name : neuter) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *cuneiforme* Hyatt, 1867 (as published in the binominal combination *Arnioceras cuneiforme*) on the *Official List of Specific Trivial Names in Zoology.*

References :

Buckman, S. S., 1911. " Yorkshire Type Ammonites," **1.**

Giebel, C. G., 1852. " Fauna der Vorwelt." (Leipzig).

Hyatt, A., 1867. " Fossil Cephalopods in the Museum of Comparative Zoology." *Bull. Mus. comp. Zool.* **1** (No. 5) : 71-74.

——— –1889. " Genesis of the Arietidae." *Smithson. Publ.* **673** (Washington).

Jaworski, E., 1931. " Ueber *Arnioceras geometricum* Oppel, 1856 und verwandte Spezies ; nebst einen Anhang über *Ammonites natrix* v. Schlotheim. 1820." *Neues Jahrb. Min. Geol. Pal.* **65B** (Beil.-Bd.) : 84.

Oppel A. 1856-1858. " Die Juraformation " (Stuttgart) (repaged reprint from *Württemb. naturw. Jahreshefte*).

d'Orbigny A. 1842-1851. " Paléontologie française, Terr. jurass., Mollusques " (Paris).

Spath, L. F., 1924. " The ammonites of the Blue Lias." *Proc. geol. Assoc.* **35** : 186.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF "LIPAROCERAS" HYATT, 1867, A GENUS BASED UPON A MISIDENTIFIED TYPE SPECIES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)507)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of *Liparoceras* Hyatt, 1867 (*Bull. Mus. comp. Zool.* **1** (No. 5) : 83), a species, other than that which would be type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July, 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 158–159) as that to be followed in the case of genera based upon misidentified type species. The facts of the case are as set forth below.

2. Hyatt (1867 : 83, 84) established the genus *Liparoceras*, in which he placed three nominal species, but for which he did not designate or indicate a type species.

3. One of the originally included species was cited as "*Liparoceras henleyi* Hyatt," in the synonymy of which Hyatt cited the following synonyms :—

Ammonites henleyi Sowerby.
Nautilus striatus Reinecke.
Ammonites striatus Zieten.
Ammonites henleyi Bronn.

4. Buckman (1911 : iii) selected as the type species of *Liparoceras* Hyatt what he referred to as "*Ammonites henleyi* Hyatt, *pars* = *A. striatus* Bronn, 1838, pl. xxiii, fig. 7." Buckman explained that what Bronn, copying Zieten (1830) : pl. v, fig. 6), called "*A. striatus*" was the same species as that cited by Hyatt as "*Ammonites henleyi* Bronn." In his later editions, Bronn (1851, ed. 3 : 373) referred figure 7 on his plate xxiii to *Ammonites henleyi* Sowerby.

5. Spath (1938 : 43) accepted Buckman's type selection for *Liparoceras*. He pointed out however, that the species so selected was still without a valid name. There is no such specific name as *Ammonites striatus* Bronn, 1838, or *Ammonites striatus* Zieten, 1830, both those authors having misidentified *Nautilus striatus* Reinecke, 1818 (which, in any case, is an invalid junior homonym of *Nautilus striatus* Sowerby (J.), 1817). Similarly, there is no such specific name as *Ammonites henleyi* Hyatt, 1867, Hyatt's use of the trivial name *henleyi* being based upon a misidentification of *Ammonites henleyi* Sowerby (J.), 1817. Spath accordingly published the name *Liparoceras bronni*, basing this nominal species upon a holotype which he selected from the British Museum collection. As Spath did not base *Liparoceras bronni* upon Bronn's figure of his "*Ammonites striatus*"—a course which would have

made *Liparoceras bronni* Spath objectively identical with the species figured by Bronn,—the trivial name *bronni* Spath is only subjectively applicable to Hyatt's species. There is however no doubt as to the identity of the species to which Spath's trivial name *bronni* is applicable ; that name is therefore the oldest available name for the species which Hyatt included in the genus *Liparoceras* under the misidentified name *henleyi* and which Buckman later selected as the type species of *Liparoceras*.

6. This is a clear case of a nominal genus based upon a misidentified type species, where the misidentification has been recognised by specialists and where the acceptance as the type species (of *Liparoceras*) of the species to which the name (*Nautilus striatus* Reinecke) cited by the author of the genus (Hyatt) correctly applies would lead to an undesirable change in current nomenclatorial practice. Accordingly, I ask the International Commission on Zoological Nomenclature :—

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, to use its plenary powers (*a*) to set aside all selections of type species for the genus *Liparoceras* Hyatt, 1867, made prior to the proposed decision, and (*b*), having done so, to designate *Liparoceras bronni* Spath, 1838, to be the type species of the foregoing genus ;

(2) to place the generic name *Liparoceras* Hyatt, 1867 (type species, as proposed in (1) above to be designated under the plenary powers : *Liparoceras bronni* Spath, 1938) on the *Official List of Generic Names in Zoology* (gender of generic name : neuter) ;

(3) to place the trivial name *bronni* Spath, 1938 (as published in the binominal combination *Liparoceras bronni*) on the *Official List of Specific Trivial Names in Zoology*.

References :

Bronn, H. G., 1834–38. *Lethea Geognostica*. Stuttgart.
————, 1851, *ibid.* (ed. 3).

Buckman, S. S., 1911. *Yorkshire Type Ammonites*, **1**.

Hyatt, A., 1867. "Fossil Cephalopods in the Museum of Comparative Zoology." *Bull. Mus. comp. Zool.* **1** (No. 5) : 83.

Reinecke, J. C. M., 1818. *Maris protogaei Nautilos et Argonautas . . . descripsit . . . J. C. M. Reinecke.*

Sowerby, J., 1817. *Mineral Conchology*, **2** : 161 (*Ammonites henleyi*), 183 (*Nautilus striatus*).

Spath, L. F., 1938. "*Catalogue of the Ammonites of the Liassic family Liparoceratidae*." Brit. Mus. (Nat. Hist.), London.

Zieten, C. H. von, 1830, *Die Versteinerungen Württembergs*: pl. v, fig. 6.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF "NORMANNITES" MUNIER-CHALMAS, 1892, A GENUS BASED UPON A MISIDENTIFIED TYPE SPECIES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)508)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of *Normannites* Munier-Chalmas, 1892 (*Bull. Soc. géol. France* (3) **20** C. R.: clxxii) (Class Cephalopoda, Order Ammonoidea), a species, other than that which would be the type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July 1948 (*see* 1950, *Bull. zool Nomencl.* **4**: 158–159) as that to be followed in the case of genera based upon misidentified type species.

2. The facts of this case are simple. Munier-Chalmas, when first publishing the generic name *Normannites*, stated that the type species of this genus was *Ammonites braikenridgei* d'Orbigny. The species so referred to is that figured by d'Orbigny in 1846 (: 400, pl. 135, figs. 3, 4).

3. The difficulty in this case arises from the fact that d'Orbigny never published the name *Ammonites braikenridgei* as a new name, his use of that binominal combination being due to his having misidentified the species which he figured on his plate 135 (figs. 3, 4) with the previously described species *Ammonites braikenridgei* Sowerby, 1817 (*Min. Conch.* **2**: 187). The genus *Normannites* Munier-Chalmas is thus a genus based upon a misidentified type species, that type species having been designated by the original author at the time of the first publication of the generic name.

4. Subsequent authors have followed Munier-Chalmas in treating the species figured by d'Orbigny (*i.e.*, the species misidentified by d'Orbigny as *Ammonites braikenridgei* Sowerby) as the type species of *Normannites* and not the true *Ammonites braikenridgei*. The species figured by d'Orbigny remained without a name until Buckman, in 1927, gave it the name *Normannites orbignyi*.

5. It is important from the point of view of securing stability in nomenclature that current nomenclatorial practice in this matter should be given a firm legal foundation. I accordingly submit the present application under the procedure prescribed by the International Congress of Zoology for adoption in cases such as the present. The application now submitted is that the International Commission on Zoological Nomenclature should :

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, use its plenary powers (*a*) to set aside all selections of type species for the genus *Normannites* Munier-Chalmas, 1892, made prior to the proposed decision, and (*b*), having done so, to designate *Normannites orbignyi* Buckman, 1927, to be the type species of the foregoing genus ;

(2) place the generic name *Normannites* Munier-Chalmas, 1892, (type species, as proposed in (1) above to be designated under the plenary powers : *Normannites orbignyi* Buckman, 1927) (gender of generic name : masculine) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *orbignyi* Buckman, 1927 (as published in the binominal combination *Normannites orbignyi*) on the *Official List of Specific Trivial Names in Zoology.*

References :

Buckman, S. S., 1927. *Type Ammonites* **7** : pl. dccxxxiv.

Orbigny, A. C.d', 1846. *Pal. franç.*, Terr. jurass. : 400, pl. 135, figs. 3, 4.

Munier-Chalmas, E. C. P. A., 1892. "Sur la possibilité d'admettre un dimorphisme sexuel chez les Ammonitidés." *Bull. Soc. géol. France* (3) **20** C. R. : clxxii.

Sowerby, J., 1817. *Mineral Conchology* **2** : 187.

PROPOSED ADDITION TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE NAMES OF TWENTY-ONE GENERA OF JURASSIC AMMONITES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) AND MATTERS INCIDENTAL THERETO

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(Commission's reference Z.N.(S.)477)

1. I submit herewith to the International Commission on Zoological Nomenclature a list of the names of twenty-one genera of Jurassic ammonites which I recommend should be placed on the *Official List of Generic Names in Zoology*. Each of these names is an available name in the sense that it is not a homonym of any generic name previously published as the valid name of a genus in the Animal Kingdom. The species cited in the list now submitted as the type species of each of the genera in question is believed to have been correctly so determined in accordance with the provisions of Article 30 of the *Règles*, being the type species either by original designation (Rule (*a*)), or by monotypy (Rule (*c*)), or by subsequent selection (Rule (*g*)).

2. The twenty-one names now submitted have been selected because in the past there have been differences of opinion among specialists in regard either to the species which should be accepted as the type species of the genera concerned or to other questions relating to these names. In view of these inconsistencies in the literature, it is very desirable that the use of these names in the sense required by the *Règles* should be stabilised as soon as possible by these names being placed upon the *Official List* with their correct type species. The nature of the inconsistencies referred to above and the grounds on which it is considered that the solutions now recommended for recognition in the *Official List* are in strict accordance with the provisions of the *Règles*, is explained (so far as is necessary) in the series of notes given in the Appendix to the present application.

3. In seven cases, points calling for some special action arise. These cases are set out below :—

(1) *Cadoceras* Fischer, 1882 : As explained in the Appendix, no valid type selection has ever been made for this genus. I accordingly now select, as its type species, *Ammonites sublaevis* Sowerby (J.), 1814 (=*Cadoceras sublaeve* (Sowerby, 1814)).

(2) *Garantiana* Mascke, 1907 : Prior to the valid publication of this name by Mascke in 1907, it had been published as a *nomen nudum* by Hyatt in 1900 (*in* Eastman's Zittel, *Textb. Paleont.* **1** : 583). This invalid earlier use of the name *Garantiana* appears in Neave's *Nomenclator Zoologicus* (**2** : 440), where its invalid status is correctly noted ; unfortunately, however, Mascke's valid use of this name is not noted in that work. It is desirable, therefore, that, in order to obviate

the risk of future misunderstandings, the nomenclatorially non-existent name *Garantiana* Hyatt, 1900, should now be finally disposed of by being placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. At the same time the uncalled-for emendation *Garantia* Rollier, 1909 (*Arch. Sci. phys. nat. Genève* (4) **28** : 613, 615) should also be placed on the *Official Index*. The type species of the genus *Garantiana* Mascke has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

(3) *Lamberticeras* Buckman (S.), 1920 : The name *Lamberticeras* was first published as a *nomen nudum* by Kilian in 1910 (*Lethaea geognostica* **3** (No. 1) (Lief. 2) : 194). Possessing no status in zoological nomenclature, the name *Lamberticeras* Kilian, 1910, does not invalidate the later name *Lamberticeras* Buckman, 1920. On erroneous information that the opposite was the case Buckman (1920, *Type Ammonites* **3** : 17) renamed his genus *Bourkelamberticeras*. Both the *nomen nudum Lamberticeras* Kilian, 1910, and the junior objective synonym *Bourkelamberticeras* Buckman (S.), 1920, should now be relegated to the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(4) *Oecotraustes* Waagen, 1869 : When Waagen first published this name, he used two different spellings, namely *Oecotraustes* and *Oekotraustes*. Most subsequent authors have adopted the first of these spellings, which is clearly the more correct. In order to promote uniformity in nomenclatorial practice, it is desirable that the International Commission on Zoological Nomenclature should rule in favour of this spelling, at the same time placing the spelling *Oekotraustes* on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(5) *Pleuroceras* Hyatt (A.), 1867 : In the mistaken belief that this name was unavailable by reason of generic homonymy, Buckman (S.), in 1898 (*Quart. J. geol. Soc.* **54** : 453) replaced it by the name *Paltopleuroceras*, which is therefore an invalid objective synonym. This error was pointed out by Jaworski, 1931 (*Neues Jahrb. für. Min. Beil.-Band* **65** : 86). The name *Paltopleuroceras* has been widely used but not to an extent which would, in my view, justify asking the International Commission to validate it under its plenary powers. When the name *Pleuroceras* Buckman is placed on the *Official List*, the name *Paltopleuroceras* should therefore be placed on the *Official Index* of *Rejected and Invalid Generic Names in Zoology*. The type species of the nominal genus *Pleuroceras* Buckman has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

(6) *Quenstedtoceras* Hyatt, 1877 : When this name was first published, it appeared in the spelling "*Quenstedioceras*." The name of the geologist after whom this genus was named was however, Quenstedt. It is evident, therefore, that the original spelling (quoted above) was due to a printers' error or to a slip of the pen on the part of Hyatt in 1877. The original error was first detected by Pompeckj in 1899

(*Cape Flora* : 96); in the following year it was silently corrected to "*Quenstedtoceras*" by Hyatt himself (1900, in Eastman's Zittel, *Textb. Paleont*, **1** : 580). Since then the corrected spelling has been generally used in the English-speaking countries (See Arkell, 1939 (*Quart. J. Geol. Soc.* **95** : 151). In Continental literature, a third spelling, "*Quenstedticeras*" is generally used, this having been first introduced by Teisseyre in 1889 (*Neues Jahrb. für Min.* Beil.-Band **6** : 148). This was however an unwarranted emendation of Hyatt's name, the termination "–oceras", which is open to no objection, having always been used for this name. The error represented by the original spelling clearly falls within the classes of error specified in Article 19 of the *Règles*, and it is accordingly recommended that the International Commission on Zoological Nomenclature, when placing this generic name on the *Official List*, should expressly emend the spelling to *Quenstedtoceras*. It would be desirable that at the same time the erroneous spelling *Quenstedioceras* and also the erroneous spelling *Quenstedticeras* should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(7) *Stephanoceras* Waagen, 1869 : Buckman (S.) in 1898 (*Quart. J. geol. Soc.* **54** : 454) changed this name to *Stepheoceras*. On the mistaken assumption that it was invalidated by *Stephanoceros* Ehrenberg, 1832 (*Abh. preuss. Akad. Wiss.* **1831** : 125) (Rotifera) and, as the more recent of the two names, was accordingly invalid. Both the name *Stephanoceras* Waagen and its invalid substitute *Stepheoceras* Buckman are often misused in Continental literature. *See* Spath, 1944 (Geol. Mag. **81** : 230). The name *Stepheoceras* Buckman, 1898, being an invalid junior objective synonym of *Stephanoceras* Waagen, 1869, should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* at the same time that Waagen's *Stephanoceras* is placed on the *Official List*. The type species of the genus *Stephanoceras* Waagen has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

4. The following is the list of generic names which it is recommended should now be placed on the *Official List of Generic Names in Zoology* :—

Names recommended for addition to the "Official List of Generic Names in Zoology"

Agassiceras Hyatt, 1875, *Proc. Boston Soc. nat. Hist.* **17** : 225 (type species, by selection by Buckman (S.) 1894 (*Geol. Mag.* (4) **1** : 361) : *Ammonites scipionianus* d'Orbigny, 1844, *Pal. française*, Terr. jurass. : 207, pl. 51, figs. 7, 8) (gender of generic name : neuter).

Angulaticeras Quenstedt, 1883, *Ammoniten schwäb. Jura* : 26 (type species, by selection by Lange, 1924 (*Jahrb. preuss. geol. Landesanst.* **44** : 176) : *Ammonites lacunatus* Buckman (J.), 1844 (*Geol. Cheltenham* : 105) (gender of generic name : neuter).

Asteroceras Hyatt, 1866, *Bull. Mus. comp. Zool.* **3** : 79, 80 (type species, by selection by Buckman (S.), 1911 (*Type Ammonites* **1** : v) : *Ammonites stellaris* Sowerby (J.), 1815, *Min. Conch.* **1** : 211, pl. 93) (gender of generic name : neuter).

Bigotites Nicolesco, 1918, *C. R. Sommaire Soc. géol. France* (4) **18** : 36 (type species, by selection by Nicolesco, 1931 (*Mém. Soc. géol. France* **17** : 23) : *Bigotella petri* Nicolesco, 1917, *Bull. Soc. géol. France* (4) **16** : 167, pl. 4, figs. 4, 5) (gender of generic name : masculine).

Cadoceras Fischer, 1882, *Manuel Conchyl.* : 394 (type species by selection by Arkell in the present application : *Ammonites sublaevis* Sowerby (J.), 1814, *Min. Conch.* **1** : 117, pl. 54) (gender of generic name : neuter).

Cadomites Munier-Chalmas, 1892, *Bull. Soc. géol. France* (3) **20** C. R.: clxx (type species, by original designation : *Ammonites deslongchampsi* (Defrance MS) d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 405, pl. 138, figs. 1, 2) (gender of generic name : masculine).

Coroniceras Hyatt, 1867, *Bull. Mus. comp. Zool.***3** : 77 (type species, by selection by Bonarelli, 1900 (*Pal. ital.* **5** : 58) : *Ammonites kridion* Hehl *in* Zieten [1830], *Verstein. Württemb.* (1) : 4, pl. 3, fig. 2) (gender of generic name neuter).

Echioceras Bayle, 1878, *Explic. Carte géol. France* **4** : explic. pl. 77, figs. 2, 3 (type species, by monotypy : *Ammonites raricostatus* Zieten, [1831], *Verstein. Württemb.* (3) : 18, pl. 13, fig. 4) (gender of generic name : neuter).

Garantiana Mascke, 1907, *Die Stephanoceras-Verwandt. Coronatensch. Norddeutschl.* 24, 34 : type species, by original designation : *Ammonites garantianus* d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 377, pl. 123 (gender of generic name : feminine).

Lamberticeras Buckman (S.), 1920, *Type Ammonites* **3** : 14, pl. 154 (type species, by original designation : *Ammonites lamberti* Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, figs. 1–3) (gender of generic name : neuter).

Ludwigella Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites concavus* Sowerby (J.), 1815, *Min. Conch.* **1** : 214, pl. 94 (holotype refigured by Buckman (S.), 1887, *Mon. Inf.-Ool. Ammonites* : pl. 2, figs. 6, 7)) (gender of generic name : feminine).

Oecotraustes Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 251 (type species, by selection by Munier-Chalmas, 1892 (*Bull. Soc. géol. France* (3) **20** C. R. : clxxi) : *Oecotraustes genicularis* Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 227, pl. 20 figs. 4a–c) (gender of generic name : masculine).

Oppelia Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 200 (type species, by selection by Douvillé (H.), 1884 (*Bull. Soc. géol. France* (3) **13** : 32) : *Ammonites subradiatus* Sowerby (J. de C.), 1823, *Min. Conch.* **5** : 23, pl. 421, fig. 2) (gender of generic name : feminine).

Phlyseogrammoceras Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites dispansus* Lycett, 1860, *Proc. Cotteswold Nat. Field Club* **2** : 146 (holotype refigured by Buckman (S.), 1922, *Type Ammonites* **4** : pl. 340)) (gender of generic name : neuter).

Pleuroceras Hyatt, 1867, *Bull. Mus. comp. Zool.* **3** : 89 (type species, by selection by Fischer, 1882 (*Manuel Conchyl.* : 388) : *Ammonites spinatus* Bruguière, 1789, *Ency. méth.* (Vers) : 40) (gender of generic name : neuter).

Pseudogrammoceras Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites struckmanni* Denckmann, 1887, *Fauna Doernten, Abh. geol. Specialkarte Preussen* **8** : 72, pl. iii. fig.1) (gender of generic name : neuter).

Pseudoperisphinctes Schindewolf, 1923, *Centralbl Min.* **23** : 346 (type species, by monotypy : *Perisphinctes rotundatus* Roemer (J.), 1911, *Fauna Aspidoides-Schichten Lechstedt*, Inaug.-Dissert. Göttingen : 44, pl. 8, fig. 2, as defined by the selection of a lectotype by Arkell, 1950 (*J. Palaeont.* **24** : 363)) (gender of generic name : masculine).

Psiloceras, Hyatt, 1867, *Bull. Mus. comp. Zool.* **3** : 72 (type species, by selection by Spath, 1924 (*Proc. geol. Assoc.* **35** : 191) : *Ammonites planorbis* Sowerby (J. de C.), 1824, *Min. Conch.* **5** : 69, pl. 448, fig. 1) (gender of generic name : neuter).

Quenstedtoceras (emend. of *Quenstedioceras*) Hyatt, 1877, *Proc. Boston nat. Hist. Soc.* **18** : 391 (type species, by monotypy : *Ammonites leachi* Sowerby (J), 1819, *Min. Conch* **3** : 73, pl. 242, fig. 4) (gender of generic name : neuter).

Sigaloceras Hyatt, 1900, *in* Eastman's Zittel, *Textb. Pal.* **1** : 587 (type species, by original designation : *Ammonites calloviensis* Sowerby (J.), 1815, *Min. Conch.* **2** : 3, pl. 104) (gender of generic name : neuter).

Stephanoceras Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 248 type species, by selection by Buckman (S.), 1898 (*Quart. J. geol. Soc.* **54** : 454) : *Ammonites humphriesianus* Sowerby (J. de C.), 1825, *Min. Conch.* **5** : 161, pl. 500, fig. 1) (gender of generic name : neuter).

5. The trivial names of the type species of the genera specified in the preceding paragraph are all valid names, and each is the oldest available name for the species concerned. It is recommended that these trivial names, as listed below, should now be placed on the *Official List of Specific Trivial Names in Zoology* :—

Names recommended for addition to the "Official List of Specific Trivial Names in Zoology"

calloviensis Sowerby (J), 1815, *Min. Conch.* **2** : 3, pl. 104 (as published in the binominal combination *Ammonites calloviensis*).

concavus Sowerby (J.), 1915, *Min. Conch.* **1** : 214, pl. 94 (as published in the binominal combination *Ammonites concavus*).

deslongschampsi (Defrance MS). d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 405, pl. 138, figs. 1, 2 (as published in the binominal combination *Ammonites deslongschampsi*).

dispansus Lycett, 1860, *Proc. Cotteswold Nat. Field Club* **2**: 146 (as published in the binominal combination *Ammonites dispansus*).

garantianus d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 377, pl. 123 (as published in the binominal combination *Ammonites garantianus*).

genicularis Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 227, pl. 20, figs. 4a–c (as published in the binominal combination *Oecotraustes genicularis*).

humphriesianus Sowerby (J. de C.), 1825, *Min. Conch.* **5** : 161, pl. 500, fig. 1 (as published in the binominal combination *Ammonites humphriesianus*).

kridion Hehl *in* Zieten, [1830], *Verstein. Württemb.* (1) : 4, pl. 3, fig. 2 (as published in the binominal combination *Ammonites kridion*).

lacunatus Buckman (J.), 1844, *Geol. Cheltenham* : 105 (as published in the binominal combination *Ammonites lacunatus*).

lamberti Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, figs. 1–3 (as published in the binominal combination *Ammonites lamberti*).

leachi Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, fig. 4 (as published in the binominal combination *Ammonites leachi*).

petri Nicolesco, 1917, *Bull. Soc. géol. France* (4) **16** : 167, pl. 4, figs. 4, 5 (as published in the binominal combination *Bigotella petri*)

planorbis Sowerby (J. de C.), 1824, *Min. Conch.* **5** : 69, pl. 448, fig. 1 (as published in the binominal combination *Ammonites planorbis*).

raricostatus Zieten [1831], *Verstein. Württemb.* (3) : 18, pl. 13, fig. 4 (as published in the binominal combination *Ammonites raricostatus*).

rotundatus Roemer (J.), 1911, *Fauna Aspidoides-Schichten Lechstedt*, Inaug. Dissert. Göttingen : 44, pl. 8, fig. 2 (as published in the binominal combination *Perisphinctes rotundatus*).

scipionianus d'Orbigny, 1844, *Pal. française*, Terr. jurass. : 207, pl. 51, figs. 7, 8 (as published in the binominal combination *Ammonites scipionianus*).

spinatus Bruguière, 1789, *Ency. méth.* (Vers) : 40 (as published in the binominal combination *Ammonites spinatus*).

stellaris Sowerby (J.), 1815, *Min. Conch.* **1** : 211, pl. 93 (as published in the binominal combination *Ammonites stellaris*).

struckmanni Denckmann, 1887, *Fauna Doernten, Abh. geol. Specialkart Preussen* **8** : 72, pl. 3, fig. 1 (as published in the binominal combination *Ammonites struckmanni*).

sublaevis Sowerby (J.), 1814, *Min. Conch.* **1** : 117, pl. 54 (as published in the binominal combination *Ammonites sublaevis*).

subradiatus Sowerby (J. de C.), 1823 *Min Conch.* **5**: 23, pl. 421, fig. 2 (as published in the binominal combination *Ammonites subradiatus*.)

6. The recommendations which I therefore now submit to the International Commission on Zoological Nomenclature are that it should :—

(1) declare that under Article 19 :—

(*a*) the correct spelling of the generic name published by Waagen in 1869 both as *Oecotraustes* and as *Oekotraustes* is *Oecotraustes* ;

(*b*) the correct spelling of the generic name published by Hyatt in 1877 as *Quenstedioceras* is *Quenstedtoceras* ;

(2) place on the *Official List of Generic Names in Zoology* the twenty-one generic names specified in paragraph 4 of the present application ;

(3) place on the *Official List of Specific Trivial Names in Zoology* the twenty-one trivial names specified in paragraph 5 of the present application ;

(4) place the under-mentioned names or alleged names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(*a*) *Bourkelamberticeras* Buckman (S.), 1920 (an objective junior synonym of *Lamberticeras* Buckman (S.), 1920) ;

(*b*) *Garantia* Rollier, 1909 (an unjustified emendation of *Garantiana* Mascke, 1907) ;

(*c*) *Garantiana* Hyatt, 1900 (a *nomen nudum*) ;

(*d*) *Lamberticeras* Kilian, 1910 (a *nomen nudum*) ;

(*e*) *Oekotraustes* Waagen, 1869 (an erroneous spelling of *Oecotraustes* Waagen, 1869) ;

(*f*) *Paltopleuroceras* Buckman (S.), 1898 (an objective junior synonym of *Pleuroceras* Hyatt, 1867) ;

(*g*) *Quenstedticeras* Teisseyre, 1889 (an incorrect emendation of the defective form, *Quenstedioceras*, in which the name *Quenstedtoceras* was originally published) ;

(*h*) *Quenstedioceras* Hyatt, 1877 (an erroneous spelling of *Quenstedtoceras* Hyatt, 1877) ;

(*i*) *Stepheoceras* Buckman (S.), 1898 (an objective junior synonym of *Stephanoceras* Waagen, 1869).

APPENDIX

Explanatory notes regarding certain of the generic names proposed to be added to the "Official List of Generic Names in Zoology"

The sign * prefixed before the name of a genus indicates that the type species of that genus has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

* *Agassiceras* Hyatt, 1875 : Although in 1894 he had selected *Ammonites scipionianus* d'Orbigny, 1844, as the type species of this genus, Buckman (S.) later (1909, *Type Ammonites* **1** : ii) sought to change the type species of this genus to *Ammonites striaries* Quenstedt, 1858. See also Buckman, 1924, *op. cit.* **5** : 33. Roman (1938, *Ammonites jurass. et. crét.* : 102) wrongly gave *Ammonites laevigatus* Sowerby (J. de C.), 1827, as the type species.

Angulaticeras Quenstedt, 1883 : The only originally included species in this genus were *Ammonites lacunatus* Buckman (J.), 1844, and *Ammonites boucaultianus* d'Orbigny, 1844. Buckman (S.) in 1906 (*Proc. Cotteswold Nat. Field Club* **15** : 233) selected as typical of this genus "the group of *Am. lacunatus* Quenstedt." This cannot be accepted as the selection of a type species under Rule (g) in Article 30 "rigidly construed." Accordingly, the first valid type-selection for this genus is that cited in the present application, namely, that by Lange (1924).

* *Asteroceras* Hyatt, 1866 : As stated in the application, the first type-selection for this genus was that of *Ammonites stellaris* Sowerby (J.), 1815, by Buckman (1911). Roman, 1938 (*Ammonites jurass. crét.* : 91) was therefore in error when he stated that *Ammonites obtusus* Sowerby (J.), 1817, was the type species.

Bigotites Nicolesco, 1918 : Roman (overlooking the action by Nicolesco in 1931) erroneously stated (1938, *Ammonites jurass. crét.* : 240) that *Bigotella haugi* Nicolesco, 1917, was the type species of this genus.

Cadoceras Fischer, 1882 : Fischer cited as sole species of this genus, the pre-1758 name *Nautilites modiolaris* Luidius, 1699 (*Lithophyl. Brit.* : 18, pl. vi, fig. 292), which has commonly been treated by authors as applying to the same species as *Ammonites sublaevis* Sowerby (J.), 1814. The first author to cite nominal species under the generic name *Cadoceras* Fischer appears to have been Nikitin (1884, *Cephalopodenfauna der Jurabildungen des Gouv. Kostroma* : 21), who after stating incorrectly that the generic name *Cadoceras* was chosen by Fischer for *Am. sublaevis* and similar forms of *Stephanoceras* described three species as belonging to this genus and mentioned several others. Under the decision taken by the Thirteenth International Congress of Zoology, when incorporating in the *Règles* a clarified and amended version of the ruling previously given by the Commission in *Opinion* 46 (see 1950, *Bull. zool. Nomencl.* **4** : 159-160, 340), the nominal species cited by Nikitin are alone eligible for selection as the type species of *Cadoceras*. Fortunately, as shown above, *Ammonites sublaevis* Sowerby, which is commonly regarded as representative of *Cadoceras* (through its identification with the *modiolaris* of Luidius) was one of the species cited by Nikitin and is therefore eligible for selection

as the type species of this genus. Neither Nikitin nor Pompeckj (1899) nor any subsequent author has, so far as I can ascertain, ever selected a type species for *Cadoceras* Fischer. Accordingly, in order to regularise existing practice, I have now (: 224) selected *Ammonites sublaevis* Sowerby, 1814 (= *Cadoceras sublaeve* (Sowerby (J.), 1814)) to be the type species of *Cadoceras* Fischer, 1882.

Cadomites Munier-Chalmas, 1892 : This generic name has been wrongly used in many French works for the genus, the correct name of which is *Stephanoceras* Waagen, 1869 (q.v.). The lectotype of *Ammonites deslongchampsi* d'Orbigny, 1846 (the type species of this genus) was refigured in 1909 (*Palaeont. univ.* **1909** : pl. 132).

Coroniceras Hyatt, 1867 : As stated in the present application, Bonarelli in 1900 selected *Ammonites kridion* Hehl. 1830, as the type species of this genus. The later action by Buckman (S.) (1911, *Type Ammonites* **1** : vi) in so selecting *Ammonites coronaries* Quenstedt, 1858, was therefore invalid. It has however, led to some misuse of the generic name *Coroniceras*.

* *Echioceras* Bayle, 1878 : The type species of this genus is (as stated in the present application) *Ammonites raricostatus* Zieten, [1831], by monotypy. Buckman (S.) (1914, *Type Ammonites* **2** : ix) was therefore in error when he stated that the type species was *Echioceras raricostatoides* Vadasz, 1908, this being the name of the species erroneously figured by Bayle as *Echioceras rarecostatum* [*sic*] (Zieten). This action by Buckman has led to some confusion in later works.

* *Ludwigella* Buckman (S.), 1901 : Although the type species of this genus is *Ammonites concavus* Sowerby (J.), 1815, by monotypy, Buckman twice later attempted invalidly to change the type species (1904, *Mon. Inf. Ool. Amm.*, Suppl. : lxxxiv ; 1923, *Type Ammonites* **4** : 56).

Oppelia Waagen, 1869 : The type species of this genus is (as stated in the present application) *Ammonites subradiatus* Sowerby (J. de C.), 1823, by selection by Douvillé (H.) in 1884. The later action by Buckman (S.) (1920, *Type Ammonites* **3** : 25) in selecting one of Waagen's figured specimens as " genolectype " was therefore invalid.

* *Phlyseogrammoceras* Buckman (S.), 1901 : Although (as stated in the present application the type species of this genus is *Ammonites dispansus* Lycett, 1860, Buckman (S.) erroneously attempted (1904, *Mon. Inf. Ool. Amm.*, Suppl. : cliv) to change the type species to *Ammonites metallarius* Dumortier, 1874.

* *Pseudogrammoceras* Buckman (S.), 1901 : This is another monotypical genus (type species : *Ammonites struckmanni* Denckmann, 1887), the type species of which Buckman later (1904, *Mon. Inf. Ool. Amm.*, Suppl. : cxliii) attempted incorrectly to alter.

* *Pseudoperisphinctes* Schindewolf, 1923 : This case is similar to that of *Pseudogrammoceras*, Schindewolf in 1925 (*Neues Jahrb. für Min.* **1925** : 319) attempting to alter the type species.

* *Psiloceras* Hyatt, 1867 : Buckman (S.) (1924, *Type Ammonites* **5** : 34) criticised Spath's action in the same year in selecting *Ammonites planorbis* Sowerby (J. de C.), 1824, and erroneously rejected that action, arguing that *Ammonites psilonotus* Quenstedt, 1845, was the type species by virtual tautonymy.

* *Sigaloceras* Hyatt, 1900 : This is a case where the original author of the generic name designated a type species, citing, for this purpose, a specific name (*Ammonites calloviensis*) previously published by Sowerby (J.) in 1815, but attributing it to another author (d'Orbigny). The specimens treated by d'Orbigny as belonging to Sowerby's species have not yet been examined and it is therefore not known whether they were correctly determined. In any case, authors have treated Sowerby's species as being the type species of this genus (thereby conforming to the requirements of *Opinions* 65 and 168, the decisions in which were confirmed by the Thirteenth International Congress of Zoology in Paris in 1948—see *Bull. zool. Zool.* **4** : 158-159). Accordingly, there are in this case no grounds for asking the International Commission to change the type species.

PROPOSED USE OF THE PLENARY POWERS FOR THE PURPOSE OF MAKING THE TRIVIAL NAME " VIRGULA " DESHAYES, 1831 (AS PUBLISHED IN THE BINOMINAL COMBINATION " GRYPHAEA VIRGULA ") (CLASS PELECYPODA) (JURASSIC) THE OLDEST AVAILABLE NAME FOR THE SPECIES IN QUESTION

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(Commission's reference Z.N.(S.)407)

1. The small sickle-shaped oyster characteristic of the lower part of the Kimeridge Clay all over England and Europe has been known for about 130 years, in the literature of all languages, as *Exogyra virgula* (Deshayes (=*Gryphoea virgula* Deshayes, 1831 (: 90, pl. v, figs. 12, 13)). (The name *Ostrea virgula*, as published by Defrance, 1820, was intended to denote the same species, but the name, as then published, was a *nomen nudum*.)

2. The " Marnes à Ostrea virgula " have figured in French literature at least since 1833 (Thirria : 145), and the Virgulaschichten in German literature at least since 1864 (von Seebach : 56); and Thurmann's Virgulian Stage (1852) has been adopted by many geologists. *Exogyra virgula* is the only name used for this species in all geological text-books of all languages.

3. In 1930, Dr. L. R. Cox discovered (Cox, 1930 : 298) that the species named *Exogyra virgula* by Deshayes in 1831 had been named and briefly diagnosed, but not figured, by William Smith fourteen years earlier (1817 : 45) under the name *Chama striata*. The description was " Oblong, elongated, curved, longitudinally striated; striae irregular ", and two Kimeridge Clay localities were given. Two syntypes survive in the William Smith collection and Cox selected one of those as the lectotype and published a figure of it. There is also another long rejected trivial name which unfortunately has priority over the name *virgula* Deshayes, 1831; this is the name *angusta* Lamarck, 1819 (: 200) (as published in the binominal combination *Gryphaea angusta*).

4. On the advice of the late Dr. F. L. Kitchin, then Chief Palaeontologist of the Geological Survey, I continued to use the name *Exogyra virgula* in my *Jurassic System* (1933), and on the advice of his successor, Mr. C. P. Chatwin, I did the same in the official memoir on the type-area of the Kimeridge Clay (Arkell, 1947).

5. In view of the geological importance of this fossil and the length of time during which it has been known by the name *Exogyra virgula* and the needless confusion and inconvenience which would arise if that name were to be discarded in favour of the totally neglected name bestowed upon it by

William Smith, or by the equally neglected name *angusta* Lamarck, 1819, I recommend the International Commission on Zoological Nomenclature (1) to suppress the trivial names *striata* Smith, 1817 (as published in the binominal combination *Chama striata*), and *angusta* Lamarck, 1819 (as published in the binominal combination *Gryphaea angusta*), (2) to place the foregoing trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*, and (3) to place the trivial name *virgula* Deshayes, 1831 (as published in the binominal combination *Gryphaea virgula*) on the *Official List of Specific Trivial Names in Zoology*.

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PROPOSED USE OF THE PLENARY POWERS FOR THE PURPOSE OF MAKING THE TRIVIAL NAME "ASPER" LAMARCK, 1819 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PECTEN ASPER") (CLASS PELECYPODA) THE OLDEST AVAILABLE NAME FOR THE SPECIES IN QUESTION

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)408)

1. *Pecten asper* Lamarck (1819 : 167, 180) is a common and characteristic fossil of the Upper Greensand all over England and Europe. For 130 years it has been known by no other name.

2. This name was used as a zonal index by Barrois (1876 : 14), since when the Zone of *Pecten asper* has appeared in numerous text-books and in the official memoirs of the Geological Survey, especially the great stratigraphical memoir on the Cretaceous rocks (Jukes-Browne, 1900 : 62, etc.) and in Woods' monograph on the British Cretaceous Lamellibranchia (: 186, pls. xxxv—vi).

3. In 1940, Dr. L. R. Cox discovered (Cox, 1940 : 125) that the species named *Pecten asper* by Lamarck in 1819 had been described and figured six years earlier in an obscure publication by Pulteney (1813 : 107, 108, figs. 4, 5) as *Pecten scaber* and *Pecten triplicatus*. He adopted the former name on account of page priority, and it appears to be the valid name.

4. Although the fossil *Pecten asper* has been superseded by an ammonite as a better zonal index, it is still an important stratigraphical fossil, and it occupies a place in the history of stratigraphy which makes a change of name at this late date extremely undesirable as being calculated to cause confusion in nomenclature without serving any useful purpose.

5. I accordingly ask the International Commission on Zoological Nomenclature (1) to use their plenary powers to suppress the trivial names *scaber* Pulteney, 1813 (as published in the binominal combination *Pecten scaber*) and *triplicatus* Pulteney, 1813 (as published in the binominal combination *Pecten triplicatus*), (2) to place the foregoing trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*, and (3) to place the trivial name *asper* Lamarck, 1819 (as published in the binominal combination *Pecten asper*) on the *Official List of Specific Trivial Names in Zoology*.

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ON DR. W. J. ARKELL'S PROPOSAL FOR THE VALIDATION, UNDER THE PLENARY POWERS, OF THE TRIVIAL NAMES "ASPER" LAMARCK, 1819 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PECTEN ASPER") AND "VIRGULA" DESHAYES, 1831 (AS PUBLISHED IN THE BINOMINAL COMBINATION "GRYPHAEA VIRGULA") (CLASS PELECYPODA)

By L. R. COX, Sc.D., F.R.S.
(*Department of Geology, British Museum (Natural History), London*)

(Extract from a letter dated 11th September, 1950)

(Commission's references Z.N.(S.)407 ("virgula") and Z.N.(S.)480 ("asper"))

Thank you for your letter of 23rd August referring to the application for the protection of the names *Gryphaea virgula* and *Pecten asper*. Certainly the two names to which the present applications relate are so well known that they should be among the first to be protected.

ON AN APPLICATION, THE GRANT OF WHICH WOULD REQUIRE THAT THE NAME "GRYPHAEA" LAMARCK, 1801, SHOULD BE SUPPRESSED, UNDER THE PLENARY POWERS, THUS VALIDATING THE NAME "GRYPHAEA" LAMARCK, 1819 (CLASS PELECYPODA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)365)

1. Attention is drawn to a request submitted by M. Gilbert Ranson to the International Commission on Zoological Nomenclature at its Session held in Paris in 1948, in which he asked the Commission to give a ruling (1) that the generic name *Gryphaea* Lamarck ranks for purposes of zoological nomenclature from 1819 not from 1801 (the year in which it was first published) and (2) that the type species of this genus is *Gryphaea angulata* Lamarck, 1819 (*Hist. nat. Anim. sans Vertèbr.* **6**(1) : 198). The text of M. Ranson's application has been published by the Commission (1950, *Bull. zool. Nomencl.* **3** : 168-170), as also has been the *Official Record of Proceedings* at the Meeting of the International Commission at which M. Ranson's application was presented (1950, *Bull. zool. Nomencl.* **4** : 306) and that of the Meeting of the Section on Nomenclature of the Thirteenth International Congress of Zoology held concurrently with the meeting of the Commission (1950, *Bull. zool. Nomencl.* **5** : 96-98).

2. The late Mr. R. Winckworth pointed out at that meeting that the generic name *Gryphaea* Lamarck, 1801 (*Syst. Anim. sans Vertèbr. :* 398) was published with a diagnosis and therefore that, this name, so published, satisfies the requirements of Article 25 of the *Règles*. On the above occasion Lamarck cited, under this generic name, the names of nine nominal species ; several of those names were at that time *nomina nuda*, but others were validated by the citation of bibliographical references. Under the *Règles*, therefore, these latter species alone are eligible for selection as the type species of this genus. One of these nominal species, *Gryphaea arcuata* Lamarck, 1801 (*loc. cit.* : 398), was selected as the type species of this genus by Anton in 1839 (*Verz. Conchyl.* : 21). This being the first occasion on which any of originally included species was so selected, the fossil species *Gryphaea arcuata* Lamarck, 1801, is under the *Règles* the type species of the genus *Gryphaea* Lamarck, 1801.

3. M. Ranson has made it clear in his application that he considers it important that the name *Gryphaea* Lamarck should be accepted as the generic name for the recent species *Gryphaea angulata* Lamarck, 1819 ; this species was so selected by Children (1823). This type selection, though prior to that by Anton, is invalid, since at the time when in 1801 the generic name *Gryphaea* was first validly published by Lamarck, the name *Gryphaea angulata*, then cited by Lamarck, was a mere *nomen nudum* and accordingly does not rank as an originally included species and is ineligible for selection by a later author to be the type species of the genus in question. In presenting this problem to

the International Commission, M. Ranson argued in favour of the acceptance of the *Histoire Naturelle* of 1819 in place of the *Systême* of 1801 as the work, as from which the type species of the genus *Gryphaea* Lamarck should be chosen. In advancing this view, M. Ranson did not ask that the International Commission should use its plenary powers to secure the end that he had in view but sought to show that it would be permissible, under the normal operation of the *Règles*, to disregard the *Systême* of 1801. As the late Mr. Winckworth has shown, this would, however, not be possible. Nevertheless, if the majority of interested specialists were to favour the end sought by M. Ranson, namely the acceptance of *Gryphaea angulata* Lamarck, 1819, as the type species of the nominal genus *Gryphaea* Lamarck, a solution in that sense could readily be provided by the International Commission by the use of its plenary powers.

4. The issue which, in effect, the International Commission is asked to decide is :—

(1) whether the normal provisions of the *Règles* are to be allowed to operate in the present case, with the result that the generic name *Gryphaea* would rank from Lamarck, 1801, and would have, as its type species, the fossil species, *Gryphaea arcuata* Lamarck, 1801 (by selection by Anton, 1839) ; or

(2) whether the plenary powers should be used to suppress the name *Gryphaea* Lamarck, 1801, and all uses of that generic name from 1801 to the date in 1819, when it was republished by Lamarck in the *Hist. nat. Anim. sans Vertèbr*, the name *Gryphaea* Lamarck, 1819 (so validated) having, as its type species, the recent species *Gryphaea angulata* Lamarck, 1819 (by selection by Children, 1823).

5. As the application submitted in this matter by M. Ranson is of direct concern to palaeontologists as well as to zoologists, the International Commission, before reaching a decision, will be anxious to be fully informed of the wishes of interested specialists in both fossil and recent species of the group concerned.

6. The object of the present note is to draw attention to the problem which has been submitted to the International Commission and to invite interested specialists to be good enough to furnish the Commission as soon as possible with their views on that problem and on the best means of solving it. Communications on this subject should be addressed to the Secretary to the International Commission on Zoological Nomenclature, Secretariat of the Commission, 28 Park Village East, Regent's Park, London, N.W.1, England.

(*continued from front wrapper*)

Introductory note on applications submitted to the International Commission on Zoological Nomenclature in regard to the names of certain Jurassic ammonites. By W. J. Arkell, M.A., D.Sc., F.R.S. (*Sedgwick Museum, Cambridge University, Cambridge*) .. .. Page 163

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